
H.264

16/8/4CH Pentaplex Digital Video Recorder V2.6

MODEL: CDR1660 / CDR0860 / CDR0460



Copyright © 2009 Clover Electronics U.S.A. All Rights Reserved

Table of Contents

ABOUT THIS MANUAL	7
1. UNPACKING	8
1.1. H.264 STAND-ALONE DIGITAL VIDEO RECORDER.....	9
2. FEATURES.....	10
3. WHAT TO DO AT THE TIME OF INSTALLATION.....	11
4. SPECIFICATIONS	12
5. OVERVIEW AND CONTROLS	15
5.1. FRONT PANEL	15
5.2. REAR PANEL	17
5.3. IR REMOTE CONTROLLER.....	19
5.4. MOUSE CONTROL AND OPERATIONS.....	20
6. INSTALLATION AND CONNECTIONS	24
6.1. NOTE FOR INSTALLATION.....	24
6.2. CAMERA CONNECTION.....	24
6.3. MONITOR CONNECTION.....	24
6.3.1. CONNECTION OF VGA MONITOR.....	24
6.3.2. CONNECTION OF MONITOR	25
6.4. SENSOR CONNECTION.....	25
6.5. ALARM (RELAY) CONNECTION.....	26
6.6. RS485 CONNECTION.....	26
6.7. CONNECTION TO AN ETHERNET NETWORK.....	27
6.8. POWER CABLE CONNECTION	27
7. HOW TO OPERATE	28
7.1. GENERAL INFORMATION	28
7.2. OPERATING INTERFACE	28
7.3. POWER ON/OFF	28
7.4. MAIN SCREEN	28
7.5. LIVE.....	29
7.5.1. FULL SCREEN.....	29
7.5.2. SPLIT SCREEN	29
7.5.3. SEQUENCING SCREENS.....	29
7.5.4. LIVE AUDIO	30
7.5.4.1. COMMUNICATION BETWEEN MONITOR AND CLIENT COMPUTER VIA INTERNET	30
7.5.5. ZOOM	30
7.5.6. PICTURE-IN-PICTURE (PIP).....	31
7.5.7. SPOT MONITOR.....	32
7.5.8. OSD ON / OFF	33
7.5.9. PAN /TILT	33
7.6. RECORD	34
7.6.1. MANUAL (CONTINUOUS) RECORDING	34
7.6.2. MOTION RECORDING	35
7.6.3. ALARM (SENSOR) RECORDING.....	35
7.6.4. SCHEDULE (TIME) RECORDING	36
7.7. REPLAY.....	36
7.7.1. BASIC PLAYBACK.....	36
7.7.1.1. PLAY / REVERSE PLAY / PAUSE / STOP	36
7.7.1.2. FAST FORWARD / REWIND.....	37
7.7.1.3. PICTURE-BY-PICTURE	38

7.7.1.4.	SLOW	38
7.7.1.5.	LOOP PLAYBACK	39
7.7.1.6.	PLAYBACK BUTTONS	40
7.7.1.7.	AUDIO PLAYBACK	41
7.7.2.	ADVANCED PLAYBACK	41
7.7.2.1.	CALENDAR SEARCH	41
7.7.2.2.	TIME / DATE SEARCH	43
7.7.2.3.	EVENT SEARCH	43
7.8.	COPY	45
7.8.1.	CD-RW / DVD-RW / DVD+RW / DVD RAM	45
7.8.2.	CD-R	49
7.8.3.	USB FLASH MEMORY	49
7.8.4.	EXTERNAL HARD DISK DRIVE	51
7.8.5.	COPY STOP	51
7.8.6.	FULL MEDIA CAPACITY DURING COPYING	52
8.	SETUP	53
8.1.	SCREEN	53
8.1.1.	AUTO SEQUENCE	54
8.1.2.	DISPLAY	54
8.1.2.1.	HDD FREE SPACE	54
8.1.2.2.	HDD FREE SPACE MODE	55
8.1.2.3.	RECORD STATUS	55
8.1.2.4.	CLOCK DISPLAY	55
8.1.2.5.	TIME & DATE FORMAT	55
8.1.2.6.	TITLE DISPLAY	55
8.1.2.7.	BORDER COLOR	55
8.1.3.	CAMERA	56
8.1.4.	SPOT	59
8.1.4.1.	SPOT OUTPUT	59
8.1.4.2.	SPOT DWELL TIME	59
8.1.5.	VIDEO ENHANCEMENT	60
8.1.5.1.	CHANNEL	60
8.1.5.2.	BRIGHTNESS	60
8.1.5.3.	CONTRAST	61
8.1.5.4.	HUE	61
8.1.5.5.	SATURATION	61
8.1.6.	EVENT SCREEN MODE	62
8.2.	RECORD	62
8.2.1.	RECORDING SETUP	63
8.2.1.1.	RESOLUTION	63
8.2.1.2.	RECORDING SPEED (FRAMES PER SECOND)	64
8.2.1.3.	QUALITY	64
8.2.1.4.	SCHEDULE RECORDING	65
8.2.1.5.	MOTION RECORDING	65
8.2.1.5.1.	MOTION RECORDING	65
8.2.1.5.2.	PRE RECORDING TIME	66
8.2.1.5.3.	POST RECORDING TIME	66
8.2.1.5.4.	SENSITIVITY	66
8.2.1.5.5.	AREA SETUP	66
8.2.1.6.	ALARM RECORDING	67
8.2.1.6.1.	ALARM RECORDING	67
8.2.1.6.2.	PRE RECORDING TIME	67
8.2.1.6.3.	POST RECORDING TIME	67
8.2.1.6.4.	SENSOR INPUT TYPE	67
8.2.2.	AUDIO RECORDING	67
8.3.	SYSTEM	68
8.3.1.	HDD (HARD DISK DRIVE)	68
8.3.1.1.	REC HDD FORMAT	68
8.3.1.2.	HDD INFORMATION	69
8.3.1.3.	MEDIA INFORMATION	69
8.3.2.	CLOCK	69
8.3.2.1.	TIME & DATE	70
8.3.2.2.	TIME ADJUST	70

8.3.2.2.1.	INTERNET TIME ADJUST	70
8.3.2.2.2.	SELECT TIME ZONE	70
8.3.2.2.3.	DAYLIGHT SAVING TIME	71
8.3.2.3.	TIME TRIMMING	71
8.3.3.	BUZZER	72
8.3.4.	PASSWORD	72
8.3.4.1.	PASSWORD	72
8.3.4.2.	SET PASSWORD	73
8.3.5.	FACTORY DEFAULT SETTING	74
8.3.6.	FIRMWARE UPDATE	74
8.3.7.	SYSTEM IFORMATION	75
8.4.	LINK	75
8.4.1.	NETWORK	76
8.4.1.1.	DHCP	76
8.4.1.2.	STATIC IP	76
8.4.1.2.1.	IP ADDRESS	77
8.4.1.2.2.	SUBNET MASK	77
8.4.1.2.3.	GATEWAY	77
8.4.1.2.4.	DNS	77
8.4.1.3.	PORT	77
8.4.1.4.	DDNS SERVER	77
8.4.1.4.1.	SERVER 1	78
8.4.1.4.2.	SERVER 2	78
8.4.1.5.	BANDWIDTH	78
8.4.2.	RS485	79
8.4.2.1.	SYSTEM ID	79
8.4.2.2.	BAUD RATE	79
8.4.2.3.	DATA BIT	79
8.4.2.4.	PARITY BIT	79
8.4.2.5.	STOP BIT	79
8.4.3.	E-MAIL	79
8.4.3.1.	SEND E-MAIL	80
8.4.3.2.	E-MAIL ADDRESS SETUP	80
8.5.	SEARCH	81
8.6.	COPY	81
9.	CLIENT PROGRAM: DVR VIEWER	82
9.1.	SYSTEM REQUIREMENT	82
9.1.1.	INSTALLING THE DVR VIEWER & H.264 CODEC	82
9.1.1.1.	DVR VIEWER INSTALLATION	82
9.1.1.2.	CODEC INSTALLATION	84
9.2.	VIEWER - LAYOUT	86
9.3.	CONFIG	87
9.4.	CONNECTION	89
9.5.	CAPTURE	90
9.6.	STATUS	91
9.7.	REPLAY	91
9.7.1.	PLAYER	92
9.8.	COPY	98
9.9.	Switch the Normal Screen to Full Screen	98
9.10.	Pan / Tilt and Preset Buttons	99
10.	INTERNET EXPLORER (WEB BROWSER)	101
11.	Hard Disk Drive (HDD) Installation	105
12.	APPENDIX	106
12.1.	TIME ZONE LISTING	106
12.2.	RECORDING TIME TABLE	108
12.3.	FACTORY DEFAULT VALUES	109
12.4.	Warranty & Factory Service	112

ABOUT THIS MANUAL

This is the Instruction Manual for H.264 Stand-Alone Digital Video Recorder, Model CDR1660, CDR0860 and CDR0460.

The middle digit(s) of the model numbers (e.g.: 4, 8 and 16) represent the number of cameras of the DVR.

This Manual describes how to install and operate the DVR system and provides specifications and features.

Please read this manual thoroughly and follow the installation process before using the system.

Note:

Be sure to correctly follow chapter **3. What to do at the time of installation** on page 11.

Contact our distributors or dealers when you have any queries.

1. UNPACKING

Care should be taken when unpacking to avoid damaging the system.
Please ensure that the following items are included.



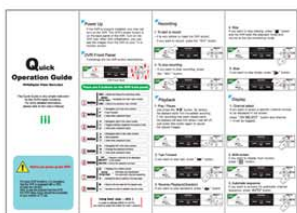
DVR



Mouse



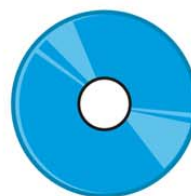
Remote controller



Quick Guide



Manual



CD



Power Cord



Adapter



Batteries



LAN Cable



Note: Contact your dealer immediately if any components are missing.

1.1. H.264 STAND-ALONE DIGITAL VIDEO RECORDER

CDR1660/CDR0860/CDR0460 is the most reliable and functional embedded DVR system available today.

The system displays 4/8/16 channels of live images in real time speed, compresses data digitally and records them to the Hard disk drive, which can be replayed and searched easily any time.

The CDR1660/CDR0860/CDR0460 supports easy backup (copy) via USB port, external Hard Disk Drive/CD RW/DVD RW and networking in both static and dynamic IP modes.

User can remotely view live images or search the recorded images.

It is a very user-friendly DVR system. User can control this DVR by USB Mouse, IR Remote Controller or buttons on the Front Panel.

2. FEATURES

- **H.264 Compression Algorithm**
The most advanced compression available today.
- **Multi Functional Record**
Powerful, multiple record modes available: Normal (Continuous, Manual), Alarm, Motion Detection and Schedule Recording.
- **Pentaplex Function**
This DVR operates live, record, playback, copy and network transmission of pictures (over the RJ-45 Interface) simultaneously.
- **Multiple Control Methods**
This unit can be controlled by IR Remote Controller, Mouse or buttons on the Front Panel.
- **Easy Data Playback in any PC.**
The backup data can be converted to the .AVI file format with the help of Viewer Software.
- **User Friendly GUI.**
A very simple buttons for easy control.
- **Easy PTZ control via RS port**
 - No need to use PTZ controller
 - PTZ control from remote PC
- **Networking**
 - DHCP based automatic network set-up-easy Network Configuration from Dynamic IP to Dynamic IP
 - Support TCP/IP and Remote Control on all DVR features
 - Up to 16 users can remote access the system through DVR Client viewer or Internet Explorer
 - DDNS support
- **Easy Backup Method.**
USB Memory Stick, External CD-RW/DVD-RW and External HDD.
- **2 Way Audio**
Communicate between the system and cameras or between the system and client computer through the internet.

3. WHAT TO DO AT THE TIME OF INSTALLATION

The system should be installed in the following order;

1. Make sure all the required hardware is available.
 - CDR0460/ 0860/ 1660, 4CH/ 8CH/ 16CH DVR
 - Up to 4/ 8/ 16 cameras
 - CCTV monitor or TV set if necessary
 - Network cable if connecting to a PC
2. Connect the cameras to the DVR (Refer to chapter **6.2 CAMERA CONNECTION** on page 24.).
4. Confirm if live video is displayed on the monitor before going to the next step.
5. Select the Setup Menu and set current date and time (Refer to chapter **8.3.2.1 TIME & DATE** on page 69.).
6. Perform HDD formatting.
7. Escape from Setup Menu.
8. Set values for required options.
9. Network cable should be connected to the monitor before turning the power on (Refer to chapter **6.7 CONNECTION TO AN ETHERNET NETWORK** for the cable specification on page 27.).

4. SPECIFICATIONS

Video			
Video Input			16/8/4 CH (BNC)
Input Level			1.0Vp-p±10% Composite, 75Ω Balanced
Video Standard			AUTO
Main Monitor Output			1.0 Vp-p Composite, 75Ω Balanced
Analog Spot Monitor Output			1.0 Vp-p Composite, 75Ω Balanced
Camera Name			Max. 8 Characters
Screen Split Control			1, 4, 8, 16 screens
Screen Rotate Control			1~60 seconds
Display	720(H)×480(V) Speed	NTSC	720(H) × 480(V)
		PAL	720(H) × 576(V)
		NTSC	480 / 240 / 120 frames(Every CH Real Time)
		PAL	400 / 200 / 100 frames(Every CH Real Time)
	Function		Auto sequence 1, 4, 8,16 Split, PIP
Audio			
Compression			ADPCM
Audio Input(Line)			1CH (RCA)
Input Level			0.5~1.4Vp-p@20kΩ
Audio Output(Line)			1CH (RCA)
Recording			
Compression			H.264
Resolution	NTSC		720(H) × 480(V), 720(H) × 240(V), 360(H) × 240(V)
	PAL		720(H) × 576(V), 720(H) × 288(V), 360(H) × 288(V)
Speed	NTSC	360 x240	Max. 240/ 240/ 120 fps (CIF)
		720 x240	Max.120/ 120/ 120 fps (Half D1)
		720 x480	Max. 60/ 60/ 60 fps (D1)
	PAL	360 x288	Max. 200/ 200/ 100 fps (CIF)
		720 x288	Max. 100/ 100/ 100 fps (Half D1)
		720 x576	Max. 50/ 50/ 50 fps (D1)
Duplex or Triplex			Pentaplex
Each CH	Frame Setting		Available
	Event, Normal		Available
	Resolution		Changed totally
	Quality		Changed at 4 level(Low, Normal, Fine, Best)
Setup per Channel			Individual
Record limit			Automatic data delete for privacy
Data Size			1~3KB(CIF), 3~7KB(D _i /2), 6~15KB(D _i)
Recording Mode			Normal(Continuous, Manual), Event(Motion detection, Alarm), Schedule
Pre-Alarm			5 seconds
Watermark			Support
Schedule			24 groups per day by an hour, Holidays are same as Sunday
Summer Time			Support
HDD	Internal Storage		Max. 2 SATA HDDs
	Speed		7200RPM
	DMA		45MHz DMA
	Type		SATA compatible
	External Storage		Not supported

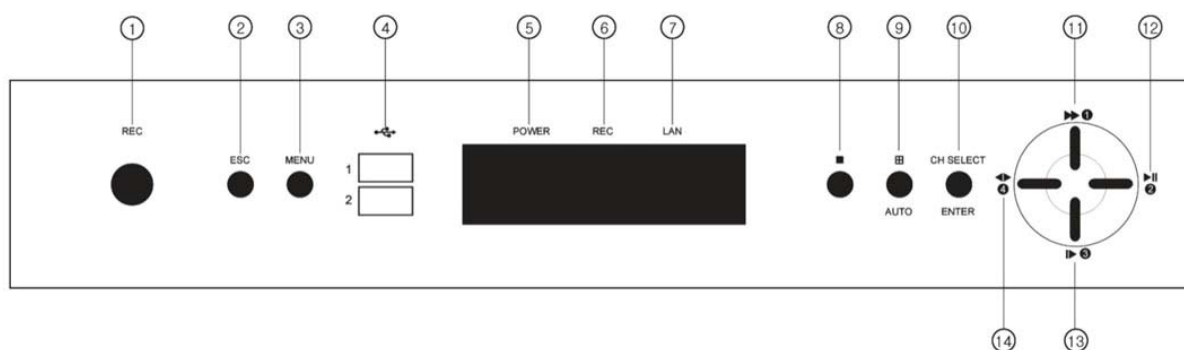
Searching and Playback	
Searching Method	Time/Date, Calendar, Event
Playback(Reverse)	1, 2, 4, 8,16, 32, 64, 128 velocity 1/2, 1/4,1/8,1/16, 1/32, 1/64, 1/128
Copy Device	
Internal CD/DVD RW	Not supported
Media Support	USB(2.0) memory stick, CD-R, CD-RW, DVD-RW, DVD+RW, DVD RAM, External HDD
USB 2.0	USB(2.0) memory stick, External CD RW/ DVD RW/ HDD
Copied File Compatibility with PC (Windows)	Compatible
Alarm	
Sensor Input	16/ 8/ 4 CH (Terminal)
Alarm Output	1 Relay out (Programmable, NO: Normal Open), Terminal
Motion Detection	Available For Each Camera Multi-Detection Level
Multi-Remote Surveillance	
Monitoring Environment	DVR Viewer Software, Web Browser
Transmission Rate	Approx. 120fps(CIF) Full Motion Transmission(16 Clients accessible)
Search	Supporting Multi-Client(16 Clients accessible)
System Monitoring and Recovery	
System Logging	Power Failure Checkable/Menu Change/Network connect
Monitoring	Software Watchdog
Recovery	Auto-Reboot By Watchdog Automatic Database Recovery
Others	
OS	Embedded Linux
Languages Supported	English
Control Device	Front key, Remote controller, USB Mouse
PTZ(16 kinds)	SPD (Samsung Techwin), SRX (Samsung Techwin), SCC-643(Samsung Electronics), SD-290 (Smile CAM), CS-854A(Panasonics), LPT-A100L, DSC-230S (Dongyang Unitech), SK-D106(Sunkwang), VC-C4R(Canon), PELCO P-TYPE (Pelco), PELCO D-TYPE (Pelco), TK-C655/676 (JVC), DMP23(DAIWA), BOSCH, PCS-SERIES, EZ PROTOCOL(E-RONIX), QPIX-D, QPIX-P
Number of Event list	50,000 per HDD
Connector	
Video Input	16/ 8/ 4 CH (BNC)
Main Monitor Output	Composite (BNC 1 port(Rear)), S-Video(Not Supported), VGA(1 port)
Spot Monitor Output	BNC 1 port
Audio Input (Line)	1CH (RCA)
Audio Output (Line)	1CH Line Output (RCA)
Firmware Update	USB 2.0 Port, Network
Sensor Input	16/ 8/ 4 CH (Terminal Block) (Include Ground Common 4 pins)
Alarm Output	1 Relay output 2 pins Terminal Block (NO, Common) x 1=2P (Total)
PTZ (RS-485)	2 pins Terminal Block, Half Duplex
Ethernet	RJ-45, 10/100 Mbps
USB 2.0	Front 2 ports
Electrical	
Power Source	DC 12V, 5A
Power Consumption	Approx. 50 Watt (Including 1 HDD)

Environmental	
Operating Temp	0℃ ~ + 40℃
Storage Temperature	-10℃ ~ + 60℃
Humidity	30 ~ 90%RH (non-condensing)
Physical	
Construction Shape	Consumer Style
Construction Material	Plastics Front Steel Case
Body Color	Black color With Plastic Key
Dimension	340 (W) x 60(H) x 248 (D) mm
Weight	Approx. 2 kgs

5. OVERVIEW AND CONTROLS

There are 3 ways to operate the system by pressing the buttons on the front panel or buttons on the remote controller and clicking the mouse.

5.1. FRONT PANEL



1. REC Key

Press this key to start to record. In order to stop recording, press this key again.

2. ESC Key

Press this key to go back to the previous menu or exit from the present screen.

3. MENU Key

This key allows the user to access the Main Menu Screen.

4. USB Ports.

These USB 2.0 ports can be used to connect to USB 2.0 mouse and numerous USB 2.0 backup devices, individual external hard drives, external optical drives and USB memory sticks.

5. POWER LED

The red LED is lit when the Power switch on the rear of the system is ON.

6. REC LED

The red LED will light on when the system is in recording mode.

7. LAN LED

The red LED will blink when the system is connected to the network.

8. STOP

Press this key to exit the playback mode and return to the live monitoring mode.

9. MULTI/ AUTO

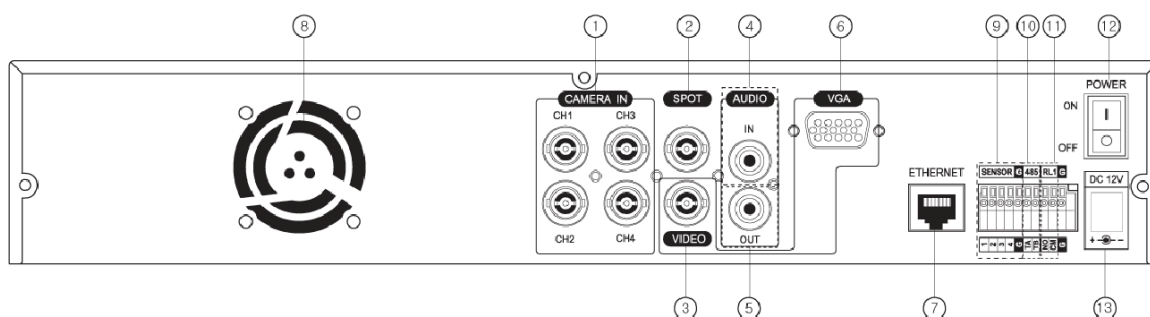
a) Press this key to display multiple screens.

* CDR1660/CDR0860: In case of 8CH and 16CH, this key is used to toggle between multiple Displays Modes: 4CH, 8CH and 16CH split screen display modes.

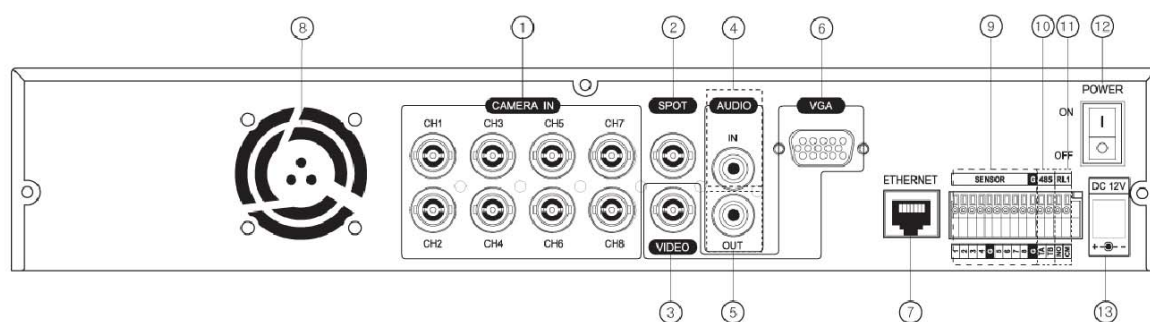
b) If you press this button for 2~3 seconds long will be activates the automatic channel sequence, and press once and the screen returns to normal.

10. CH SELECT/ ENTER Key
 - a) Press this key to select the desired channel in full screen. This key is used to toggle between single channels.
 - b) Press this key to execute the selected function in the menu screen or enter the selected submenu.
11. FAST FORWARD/ NUMERIC/ UP DIRECTIONAL Key
 - a) Press this key repeatedly to toggle between 2X normal playback speed through 128X normal playback speed
 - b) Press this key to enter the numeric password, 1.
 - c) Press this key to navigate up in the menu screen.
12. PLAY/ PAUSE/ NUMERIC/ RIGHT DIRECTIONAL Key
 - a) Press this key to start the playback of recorded data. By default, the playback starts from the earliest recording. If the recording has been played back, the playback will start from where it was left off.
 - b) Toggles between playback and pause mode.
 - c) Press this key to enter the numeric password, 2.
 - d) Press this key to navigate right in the menu screen.
13. SLOW PLAYBACK/ NUMERIC/ DOWN DIRECTIONAL Key.
 - a) Press this key repeatedly to toggle between 1/2 normal playback speed through 1/128 normal playback speed.
 - b) Press this key to enter the numeric password, 3.
 - c) Press this key to navigate down in the menu screen.
14. DIRECTION/ NUMERIC/ LEFT DIRECTIONAL Key.
 - a) Press this key to change the playback direction.
 - b) Press this key to enter the numeric password, 4.
 - c) Press this key to navigate left in the menu screen.

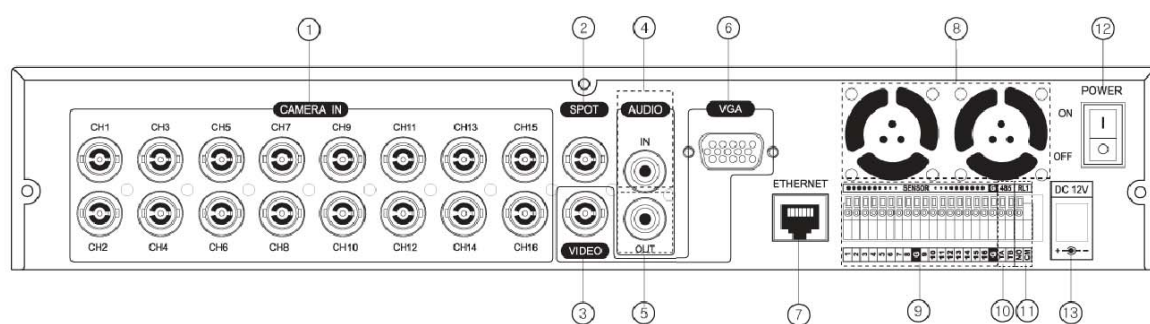
5.2. REAR PANEL



CDR0460



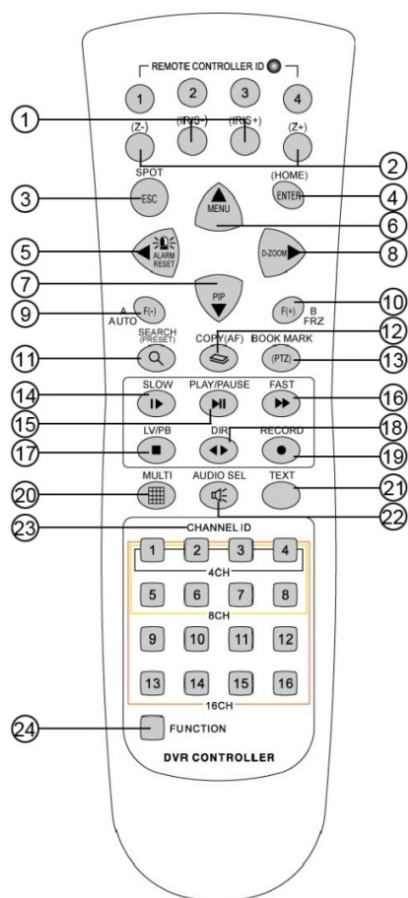
CDR0860



CDR1660

① CAMERA INPUT	BNC connectors for composite video signal input
② SPOT OUTPUT	Spot monitor BNC connector for composite video signal output
③ MAIN MONITOR OUTPUT	BNC connector for main monitor composite video signal output
④ AUDIO INPUT	RCA connectors for audio signal input
⑤ AUDIO OUTPUT	RCA connectors for audio signal output
⑥ VGA OUTPUT	D-sub 15-pin connector for PC Monitor out
⑦ RJ-45 ETHERNET PORT	10/100 Base-T RJ-45 port for network connection
⑧ FAN	Fan used for cooling the components internally.
⑨ ALARM(SENSOR) INPUT	Alarm input 1 through 4 on CDR0460, 1 through 8 on CDR0860 and 1 through 16 on CDR1660
⑩ RS-485 TERMINAL BLOCK	Terminal blocks for RS-485
⑪ RELAY OUT	Terminal blocks for relay out
⑫ POWER SWITCH	This switch turns the DVR on or off
⑬ POWER IN	DC Power socket for 12VDC 5Amps

5.3. IR REMOTE CONTROLLER



Button Name	Description
1. (IRIS-/+) (Z-) (IRIS+) (Z+)	Iris close and open of PTZ / Frame by Frame(field by field) playback
2. (ZOOM-/+) (HOME)	Zoom in and out of PTZ
3. SPOT / ESC	Enter the spot mode / Return to the previous mode
4. ENTER (HOME)	Enter / Go home Position in PTZ mode
5. (◀)	Move the cursor in left direction in the setup menu
6. (▲) / MENU	Move the cursor up to the next line in the setup menu / Display the setup menu
7. (▼) / PIP	Move the cursor down to the next line / Enter the PIP mode / Exit the loop playback mode
8. (▶) / D-ZOOM	Move the cursor in right direction in the setup menu. / Control of zoom in and out
9. AUTO / (-) / F(-)	Auto sequence / Downward value / Focus control of PTZ
10. FREEZE / (+) / F(+)	Freeze / Up-going value / Focus control of PTZ
11. SEARCH / (PRESET)	Display the search menu / Enter the preset mode of PTZ
12. COPY / (AF)	Display the copy menu / Auto focus of PTZ
13. (PTZ)	Enter the PTZ mode
14. SLOW (▶▶)	Press this button to slow-down playback speed
15. PLAY/PAUSE (▶▶)	Press this button to begin playback. If press again during the playback, a still picture is displayed
16. FAST (▶▶▶)	Press this button to speed-up playback speed
17. LV/PB (■)	Convert the screen into real display mode during the playback
18. DIR (◀▶)	Change the direction of playback
19. RECORD (●)	Begin and stop recording
20. MULTI	Display multi-screen
21. TEXT	Reserved
22. AUDIO SELECT	Audio Mute ON/ OFF
23. CHANNEL ID	Camera number select button
24. FUNCTION	Used when AUDIO ON/ OFF

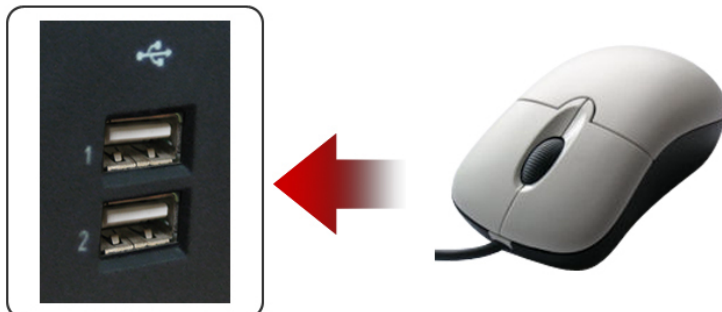
NOTE:

NO 4. ENTER (HOME): Protocol supported function of PTZ Home Position move.

SPD / DSC-230 / CS-854 / EZ / PCS-SERIES

5.4. MOUSE CONTROL AND OPERATIONS

Insert the USB Mouse to the USB port which is on the front panel of the DVR as shown in the below figure.



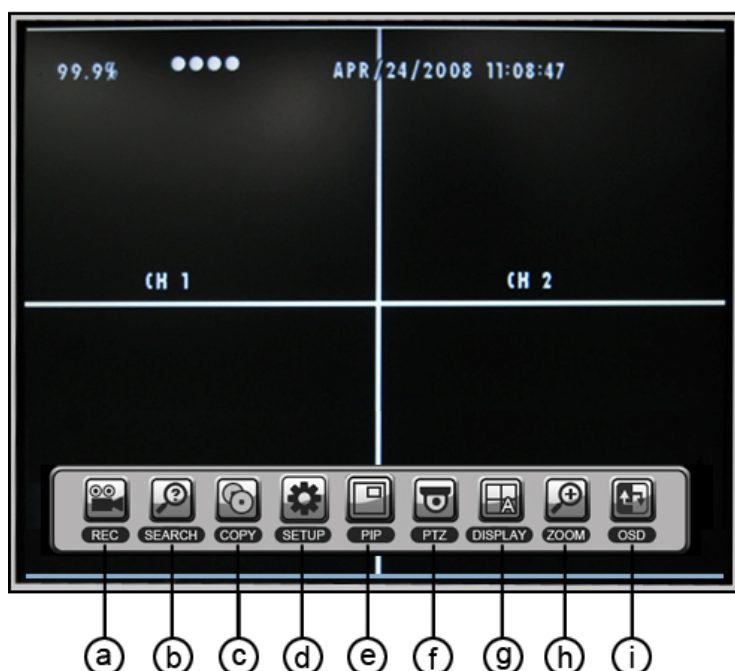
NOTE:

We recommend you to connect the USB mouse into Port 2 and use Port 1 for USB memory stick.



① One-click on the left button	Select the desired item
① Double-click on the left button	Full screen display/ Return the multi-screen Enter the selected item from the Main Menu
② Scroll	Reserved
③ One-click on the right button	Icon Window Display/ Exit

Connect the mouse to the USB port of the DVR and click on the right button of the mouse and the Icon Window (Menu bar) will be displayed like the following picture.

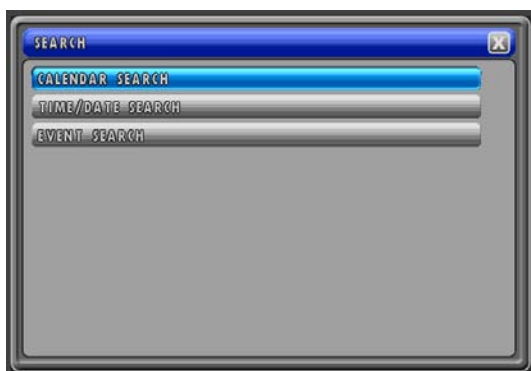



a) RECORD Button

Click the left button of the mouse on REC icon of the Menu bar to start to record.
To stop recording, click the left button of the mouse on REC icon once again.

b) SEARCH Button

Click the left button of the mouse on SEARCH icon of the Menu bar to access to search functions like CALENDAR SEARCH, TIME/DATE SEARCH and EVENT SEARCH and the following screen will be displayed.

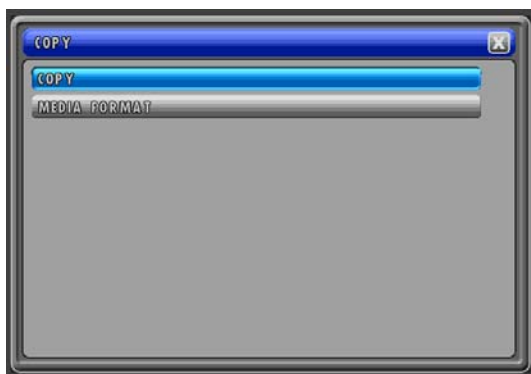



Click the  (EXIT) button to return to the LIVE mode.

For detail information of search menu, refer to chapter **7.7.2. ADVANCED PLAYBACK** on page 41.

c) COPY Button

Click the left button of the mouse on COPY icon of the Menu bar in order to copy the data in external devices like USB memory device, External CD/DVD-RW or HDD and the following screen will be displayed.




Click the  (EXIT) button to return to the LIVE mode.

For detail information of copy menu, refer to chapter **7.8. COPY** on page 45.

d) SETUP Button.



Click the left button of the mouse on SETUP icon of the Menu bar to access the main menu and the following screen will be displayed.

Click the  (EXIT) button to return to the LIVE mode.

For detail information of main menu, refer to chapter **8. SETUP** on page 53.

e) PIP

Click the left button of the mouse on PIP (PICTURE-IN-PICTURE) icon of the Menu bar to enter the PIP mode and the PIP control bar will be displayed on right below of the screen like the following picture.




Click the  (EXIT) button of the PIP control bar to return to the LIVE mode.

For detail information of PIP control, refer to chapter **7.5.6. PICTURE-IN-PICTURE (PIP)** on page 31.

f) PTZ

Click the left button of the mouse on PTZ icon of the Menu bar to work some basic functions of PTZ Cameras like PAN/TILT/ZOOM, IRIS OPEN/CLOSE etc and the PTZ control bar will be displayed.



Click the  (EXIT) button of the PTZ control bar to return to the LIVE mode.
For detail information of PTZ control, refer to chapter **7.5.9. PAN / TILT** on page 33.

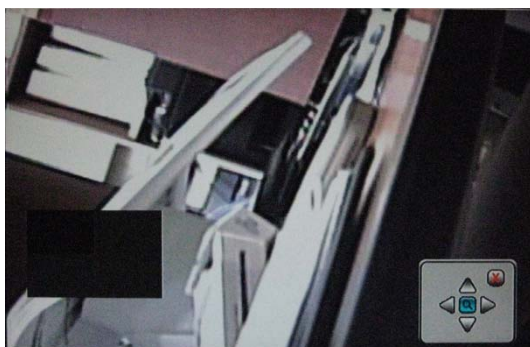
g) **DISPLAY**


Click the left button of the mouse on DISPLAY icon of the Menu bar to get Multi-channel Display. This button can be toggled for multi-screen of 4 channel and 8 channel in case of 8 channel unit, and 4 channel, 8 channel and 16 channel in case of 16 channel unit.

h) **ZOOM**

Click the left button of the mouse on ZOOM icon of the Menu bar if you want to see the image on the screen to be zoomed up to 4 times in the LIVE mode and the following screen will be displayed.

NOTE: It is possible to zoom into a section of the screen to get a digital close-up during the live view mode and single channel display.



Click the  (EXIT) button of the zoom control bar to return to the LIVE mode.

i) **OSD**

Click the left button of the mouse on OSD icon of the Menu bar to turn the OSD (On Screen Display) ON or OFF.

When the OSD is in OFF position, all texts on the screen will be disappeared.

6. INSTALLATION AND CONNECTIONS

6.1. NOTE FOR INSTALLATION

- Install the system according to the instructions described in this manual.
- Avoid any area with high humidity or dust which can shorten lifetime of the system.
- Choose a well ventilated area and keep minimum of 10" away from obstructions. Do not place the system near heat generation devices.
- Avoid any area with movement as this can interfere with the internal Hard Drive.
- Use a compatible input/output signal type of cameras and monitors.
- Contact your dealer if you have any problems in regards to the installation of this system.

6.2. CAMERA CONNECTION

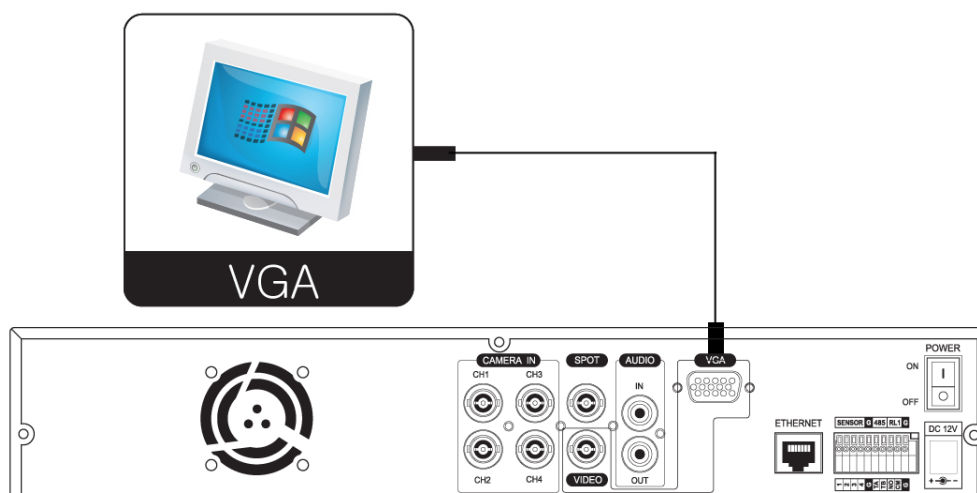
Connect the Cameras with the BNC Cables to the "CAMERA IN" ports on the rear panel of the DVR as shown in the below figure.



6.3. MONITOR CONNECTION

6.3.1. CONNECTION OF VGA MONITOR

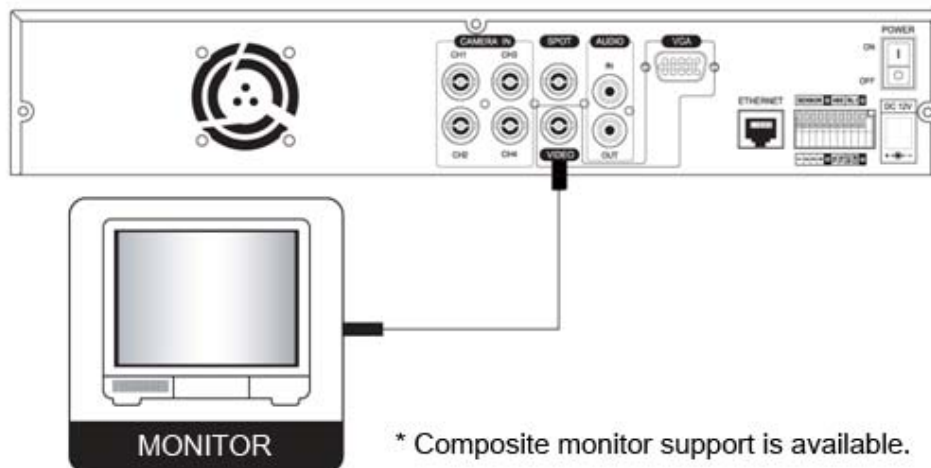
Connect one end of the VGA Cable to the VGA port of the LCD monitor and the other end to the VGA port of the DVR as shown in the below diagram.



< Model: CDR0460 >

6.3.2. CONNECTION OF MONITOR

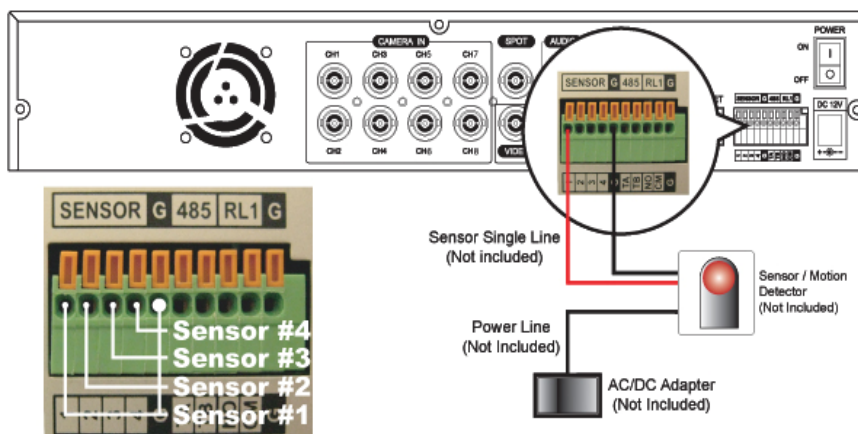
Connect the composite Video Output (VIDEO OUT) of the DVR to the Video IN of Monitor as shown in the below diagram.



6.4. SENSOR CONNECTION

If you want, you can install sensors on your DVR system. There are four sensor signal input terminals on the DVR. To install sensors on the DVR, follow the instruction below. The sensor signal input terminals are on the rear panel of the DVR.

- Connect the signal lines of the sensors as shown in below diagram.
- Connect the power lines of the sensors.



< Model: CDR0860 >

NOTE:

Two signal input terminals are assigned to one channel.

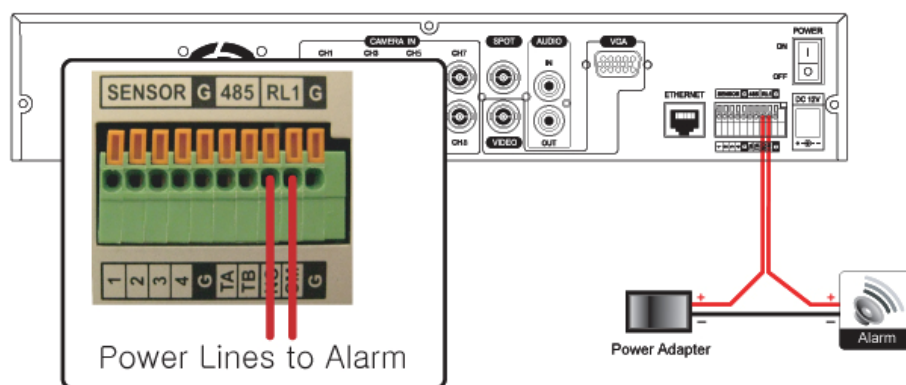
6.5. ALARM (RELAY) CONNECTION

If you want, you can install alarm on your DVR system. There is one alarm power switch, which is controlled by the DVR.

The ALARM OUTPUT is a relay contactor type and supports N.O.(Normal Open) and C.M.(Common). The Output capacity is DC 30W, AC 62.5VA. A higher capacity can cause system failure.

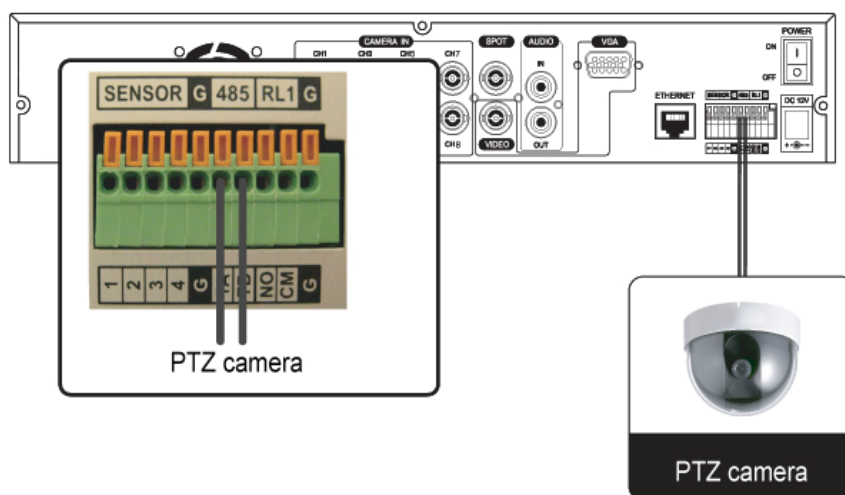
The switch is closed when a sensor is activated. Refer to the below diagram to understand the circuitry for the alarm installation.

* Connect the alarm power lines of the sensor as shown in the below diagram.



6.6. RS485 CONNECTION

If you want, you can connect PTZ cameras or external keyboard controller(to be recommended by the DVR maker). Connect "TA(or TX+, TRX+ etc.)" of the PTZ cameras or external keyboard controller to "TA" port of 485 ports of the DVR and "TB(or TX-, TRX-, etc.)" of the PTZ cameras or external keyboard controller to "TB" port of 485 ports of the DVR with cables.

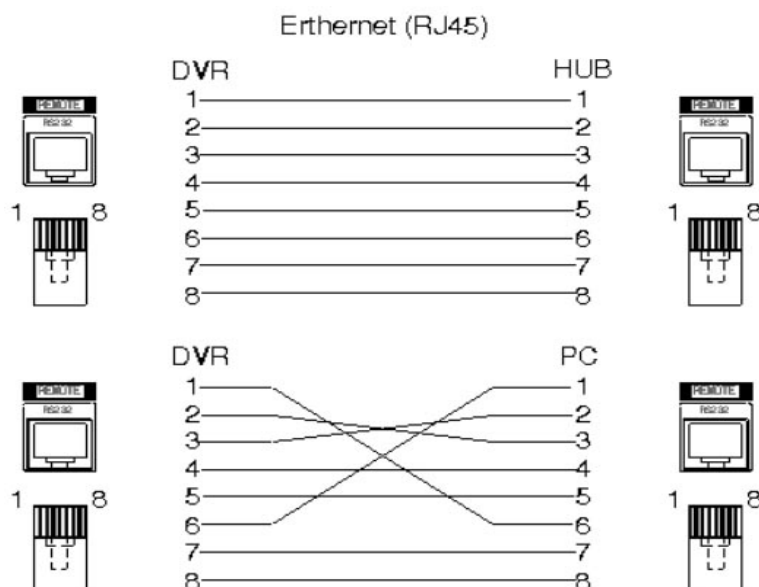


No	DESCRIPTION	
1	TA(TX+)	RS485: Transmit data
2	TB(TX-)	RS485: Receive data

6.7. CONNECTION TO AN ETHERNET NETWORK

Our Ethernet connector is a RJ45 type. The maximum cable length is 300 ft. When you want to use a longer cable, we suggest using repeater.

The below figure shows the straight through and the Crossover cables which are normally used Network Cables.



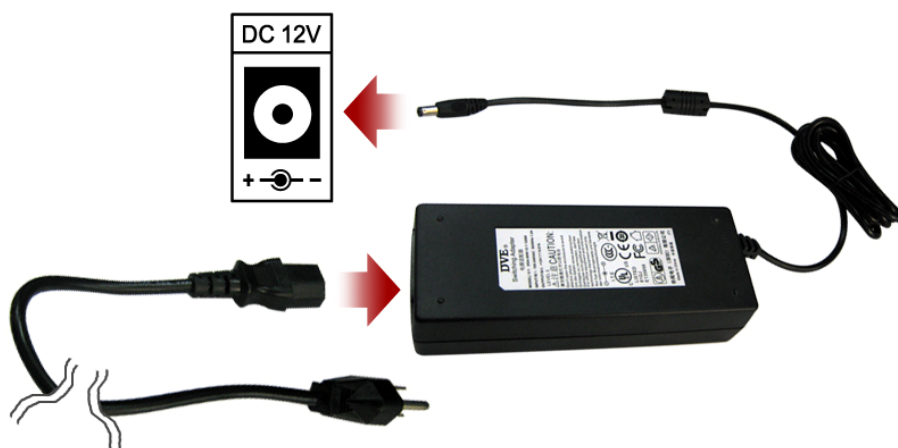
6.8. POWER CABLE CONNECTION

Connect the provided Power adapter and cable to the rear power socket of the DVR as shown in the below figure.

The power source is DC 12V 5A.

It should not be shared with other electrical equipment on the same line.

Frequent power cuts can cause crucial failures, so if you have an unstable power source, we recommend the use of an Uninterrupted Power Supply or other backup power source.



7. HOW TO OPERATE

7.1. GENERAL INFORMATION

You can operate all functions of the system by use of buttons located on the front panel, remote controller and a mouse. Additionally, you can control this unit with an external keyboard controller via RS-485 or can remotely control via the Ethernet port located on the back of the unit.

System status is indicated by either LED lights on the front panel or the monitor.

The system is protected from any accidental pressing of any operator buttons, but care should be taken when using the functions of HDD formatting as this can lead to data loss.

7.2. OPERATING INTERFACE

There are 3 ways to operate the system by pressing the buttons on the front panel or buttons on the remote controller and clicking the mouse. A lot of users mostly prefer to use a mouse on these kinds of products such as DVRs. Therefore we would like to describe all the instructions in this manual based on using the mouse.

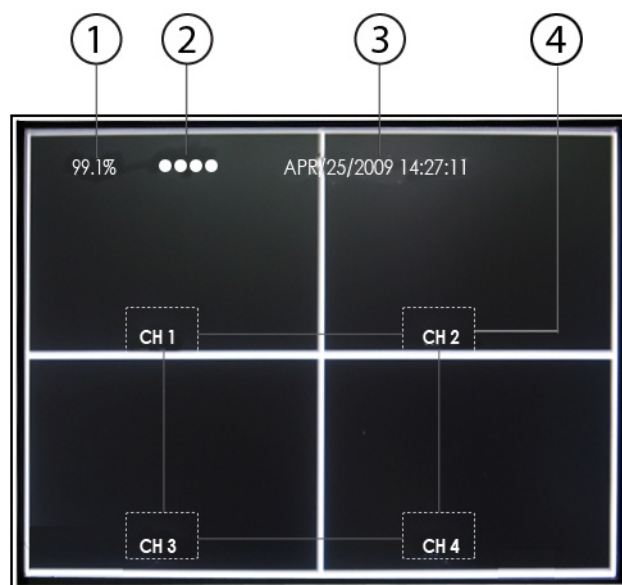
7.3. POWER ON/OFF

On the rear panel:

Turn on the Power switch on the rear panel. The LED on the front panel is lit when the Power switch in ON.

To turn off the DVR, turn off the Power switch on the rear panel.

7.4. MAIN SCREEN



① REMAINING HARD DRIVE SPACE / PLAYBACK STATUS

The remaining hard drive space is displayed either in percentage or in Gigabytes in the live mode.

The hard drive overwrite is on as default so the counter will remain as 0 and the DVR will continue to write on to the hard drive from the beginning. The counter will remain 0 as long as the hard drive is full with previously recorded data, and will display its original size once the hard drive is formatted. In playback mode, it displays the direction and the speed of the playback.

② CHANNEL STATUS

The status of each channel is displayed in color codes.

- White: non-recording
- Yellow: continuous (manual) recording
- Red: event recording
- Blue: schedule recording.

③ DATE AND TIME

Current date and time is displayed when in live monitoring mode. Recorded date and time is displayed when in playback mode.

④ CHANNEL INFORMATION

The channel information is displayed. When the channel is in normal recording mode, it will display the channel title as entered by the user. When the channel is in event recording mode, it will display the appropriate event recording mode: ALARM and MOTION.

NOTE:

CDR0860 /CDR1660: It can be seen in information of the 8channel or 16channel

7.5. LIVE

7.5.1. FULL SCREEN

A Full screen is available in the live mode or the record mode.

Double-click the left button of the mouse on a certain camera's screen in the live mode or in the record mode, and a full screen will be displayed.

Double-click the left button of the mouse to return to the Split screen from the Full screen.

**** You can operate with CH SELECT button of the front panel or the numeric buttons of remote controller.**

7.5.2. SPLIT SCREEN

A Split screen is available in the live mode or the record mode.

Click the DISPLAY icon on the MENU bar (refer to g) DISPLAY of chapter **5.4 MOUSE CONTROL AND OPERATIONS** on page 20 or double-click the left button of the mouse on the full screen.

**** You can operate with MULTI () button of the front panel or the remote controller.**

7.5.3. SEQUENCING SCREENS

Press the AUTO button of the front panel or the remote controller to activate the automatic sequence display. Please change "ADD AUTO SINGLE" option to ON in AUTO SEQUENCE menu of SCREEN menu of MAIN MENU to include single channel display into the automatic sequence. Any of the view modes can be skipped by selecting the dwell time to 0.



Displaying the cameras in SEQUENCE is available in the live mode or the record mode. Each of the channels will be displayed in sequence and the dwell time can be adjusted in the AUTO SEQUENCE menu (refer to chapter **8.1.1. AUTO SEQUENCE** on page 54.).

AUTO SEQ notification is displayed on the upper left hand corner of the screen while the system is in the AUTO SEQUENCE mode.

7.5.4. LIVE AUDIO

This unit can support 1 channel audio (line audio only).

Press the AUDIO SEL button of the remote controller to turn the Audio ON or OFF while pressing FUNCTION button.

Change the "AUDIO RECORDING" to ON to do audio recording.

7.5.4.1. COMMUNICATION BETWEEN MONITOR AND CLIENT COMPUTER VIA INTERNET

This system is normally in listening mode between the monitor and your computer through the internet (Client viewer or Internet Explorer). In order to communicate between the system and your computer, connect a headphone or a microphone and a speaker to the computer.

Don't forget to turn the AUDIO ON by clicking the audio icon of the viewer.

7.5.5. ZOOM

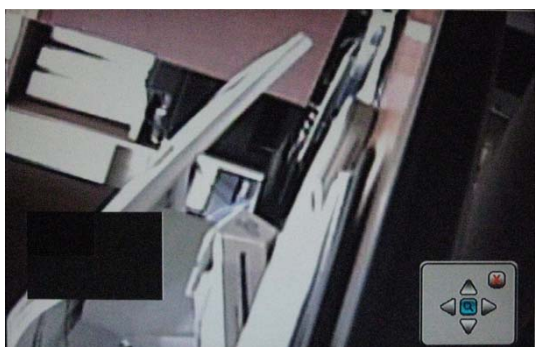
The image on the screen will be zoomed up to 4 times when the ZOOM button is clicked in the live mode (This function is available on the full screen mode only).



Double-click the left button of the mouse on the desired screen or press the CH SELECT button of the front panel or the numeric button of the remote controller to display a desired full screen.

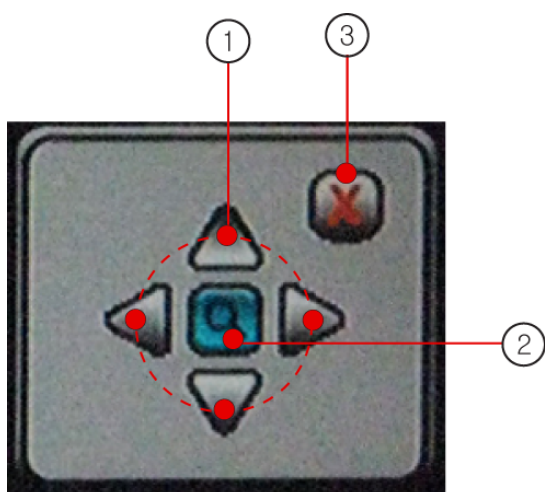




Click the right button of the mouse to display the MENU bar.



Click the ZOOM icon or press the D-ZOOM button of the remote controller to enter the Zoom mode.

And you can see the Zoom control box like the left picture.

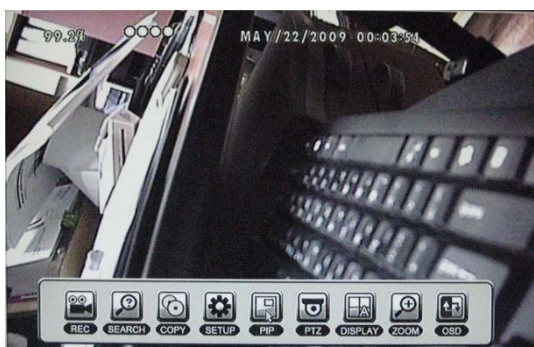


- ① Use the directional buttons to move the zoom window to the desired location.
- ② Toggle x2, x4 and normal screens by clicking the  button.
- ③ Click the  button or press the ESC button of the remote controller to exit out of the zoom mode.

7.5.6. PICTURE-IN-PICTURE (PIP)



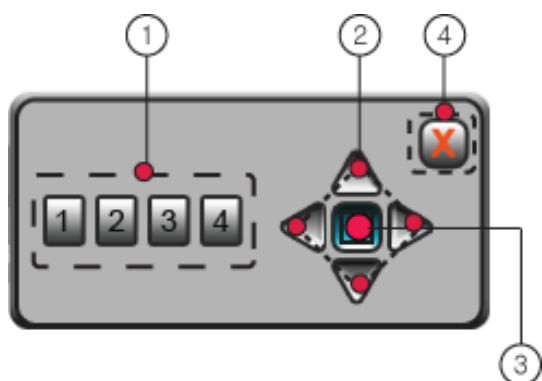
Select the background channel by double-clicking the left button of the mouse on the desired channel, pressing the desired numeric button of the remote controller or pressing the CH SELECT button of the front panel.




Click the right button of the mouse to display the menu bar.



Click the PIP icon on the menu bar or press the PIP button of the remote controller to activate the PIP mode and you can see the PIP control bar like the left picture.



- ① Clicking the numeric buttons on the PIP control bar or pressing the numeric buttons of the remote controller will change the PIP window to change the channel to the desired channel.
- ② Click the directional buttons on the PIP control bar or press the directional buttons of the remote controller or the front panel to place the PIP window to the desired location on the screen.
- ③ Click this button or press the ENTER button of the remote controller or the front panel and the PIP window will be zoomed up.
- ④ Click the  button or press the ESC button of the remote controller to exit out of the PIP mode.

7.5.7. SPOT MONITOR

The spot monitor allows viewing of individual cameras in the live mode while the main monitor may be busy with different tasks, such as playback. This unit offers a single channel spot output. For detail explanation of the spot monitor setup, refer to chapter **8.1.4 SPOT** on page 59.



During any view modes, press the SPOT button of the remote controller for Spot monitor mode.



Press any channel numbers of the remote controller or the CH SELECT button of the front panel to display the channel in full screen mode on the spot monitor.

The spot monitor will display the channel accordingly.



Press the SPOT button of the remote controller to exit from Spot monitor mode.

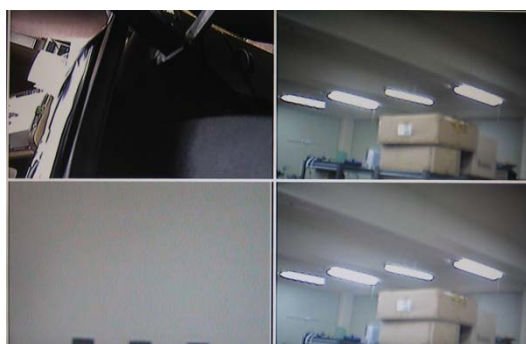
7.5.8. OSD ON / OFF

OSD ON/OFF is possible in the live mode or record mode.

Click the OSD icon on the MENU bar to turn the OSD (On Screen Display) ON or OFF.

When the OSD is in OFF position, all the texts on the screen will be disappeared.

Click the right button of the mouse to disappear the MENU bar.



7.5.9. PAN /TILT

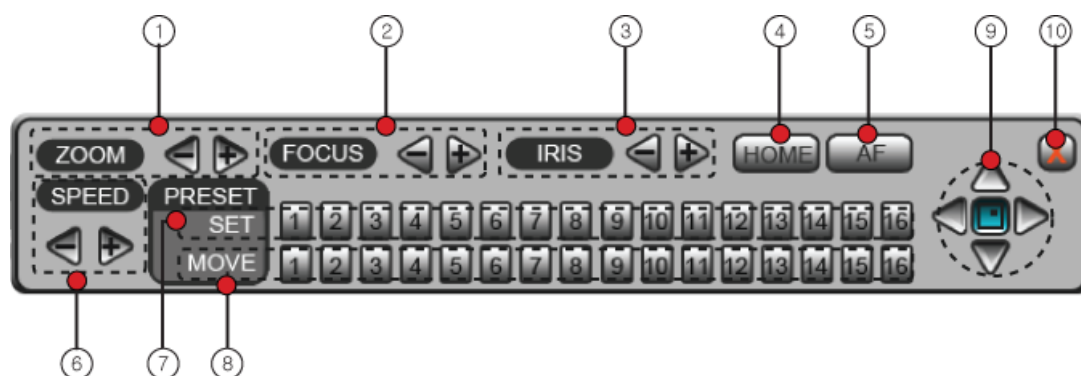
The DVR comes with an extensive list of compatible PTZ cameras. Please read and follow the PTZ manufacturer's instruction manual and understand its settings fully prior to proceeding to attempt to connect and control the PTZ camera through the DVR. Please refer to PTZ model selection of chapter **8.1.3 CAMERA** on page 56.

NOTE:

You can enter the PTZ mode in case of connecting a PTZ camera.



Click the PTZ button on the MENU bar or press the PTZ button of the remote controller in the live mode to access the PAN/TILT cameras.



- ① ZOOM: Zoom in and out by clicking on the - or + buttons.
- ② FOCUS: Focus in and out by clicking on the - or + buttons.
- ③ IRIS: Control the iris open and iris close by clicking on the - or + buttons.
- ④ HOME: Return the PTZ camera to Home position by clicking this button.
- ⑤ AF(Auto Focus): Toggle Autofocus on or off by clicking on this button.
- ⑥ SPEED: Select the movement speed ratio by clicking on the - or + buttons.
- ⑦ Set preset points: Move the PTZ camera to the desired location, and then click on any of the 16 buttons to set a preset position.
- ⑧ Move to preset points: Click on any of the 16 buttons to move the PTZ camera to predefined preset position.
- ⑨ Directional buttons: Move the PTZ camera using the directional buttons.
- ⑩ EXIT: Click this button to exit the PTZ control bar or click the right button of the mouse on the screen.

7.6. RECORD

This system provides Watchdog function.

When power goes off during recording and then the power turns on, the system will automatically start recording.

If you start to record, the circles representing the channel status will change color based on the recording mode. (Refer to 2) CHANNEL STATUS of chapter **7.4 MAIN SCREEN** on page 28.)

NOTE:

In case of record modes except for the manual (continuous) recording, you don't have to press the REC button. To turn on the REC button means to start the manual (continuous) recording so if you want EVENT recording or SCHEDULE recording, do not turn on the REC button.

7.6.1. MANUAL (CONTINUOUS) RECORDING

Click the REC icon on the MENU bar, press the RECORD button of the remote controller or the REC button of the front panel in the live mode and the system will start the manual (continuous) recording.



7.6.2. MOTION RECORDING

Motion recording is yet another effective form of event recording that is triggered when a channel detects motion in its field of view as the H.264 compression algorithm allows for accurate and error-free motion detection.

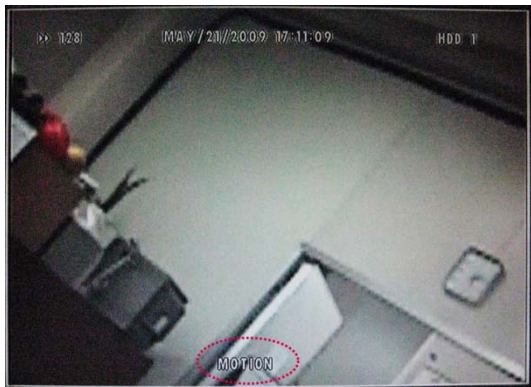
Click the SETUP icon on the MENU bar or press the MENU button of the remote controller or the front panel in the live mode and the MAIN MENU window will be displayed.

Click the RECORD in the MAIN MENU and the RECORD menu will be displayed.

Click the RECORDING SETUP in the RECORD menu and the RECORDING SETUP window will be displayed.

Click the  button of the desired channel below the MOTION () icon and the MOTION menu will be displayed.

Select the MOTION RECORDING ON or OFF and set the other items to the desired values.



The channels which detect motion will display the "MOTION" message and you can hear the beep sound by 5 seconds interval for 30 seconds. The REC button will light up and the channel status will change the color to red in the channels in which the motion was detected.

The recording will include the pre and post recording time on the channels that are recording.

For a detailed explanation of each function and feature, refer to chapter **8.2.1.5 MOTION RECORDING** on page 65.

7.6.3. ALARM (SENSOR) RECORDING

Alarm recording is a form of event recording that triggers off of the circuit lines connected to the terminal blocks in the rear of the DVR. Typical circuits comprise of normally closed circuits (NC) and normally open circuits (NO). This unit can support only NO(Normal Open).

Click the SETUP icon on the MENU bar or press the MENU button of the remote controller or the front panel in the live mode and the MAIN MENU window will be displayed.

Click the RECORD in the MAIN MENU and the RECORD menu will be displayed.

Click the RECORDING SETUP in the RECORD menu and the RECORDING SETUP window will be displayed.

Click the  button of the desired channel below the ALARM () icon and the SENSOR menu will be displayed.



Select the ALARM RECORDING ON or OFF and set the other items to the desired values.

The channels on which the alarm is triggered will display the "ALARM" message and you can hear the beep sound by 5 seconds interval for 30 seconds. The REC button will light up as the DVR starts to record and the channel status will change to red.

The recording will include the pre and post recording time on the channels that are recording.



For a detailed explanation of each function and feature, refer to chapter **8.2.1.6 ALARM RECORDING** on page 67.

7.6.4. SCHEDULE (TIME) RECORDING

Click the SETUP icon on the MENU bar or press the MENU button of the remote controller or the front panel in the live mode and the MAIN MENU window will be displayed.

Click the RECORD in the MAIN MENU and the RECORD menu will be displayed.

Click the RECORDING SETUP in the RECORD menu and the RECORDING SETUP window will be displayed.

Click the  button of the desired channel below the SCHEDULE () icon and the SCHEDULE menu will be displayed.

Select the SCHEDULE RECORDING ON or OFF.

Click the desired time to record and the selected time bar will be red.

For a detailed explanation of each function and feature, refer to chapter **8.2.1.4. SCHEDULE RECORDING** on page 65.

7.7. REPLAY

7.7.1. BASIC PLAYBACK


7.7.1.1. PLAY / REVERSE PLAY / PAUSE / STOP

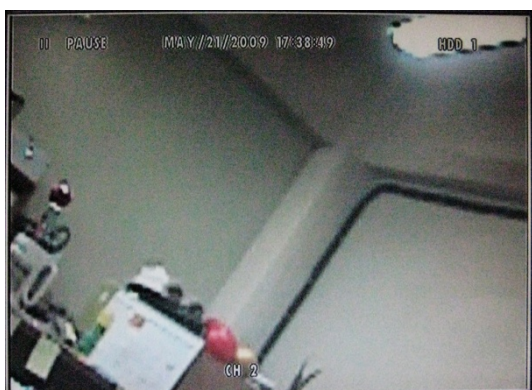



Press the PLAY/PAUSE button of the remote controller or the front panel and the play icon will be displayed. The DVR starts the playback from the earliest recorded data if the playback mode is entered for the first time.

If you click the right button of the mouse in playback mode and the playback control bar will be displayed and you can control with a mouse as well as remote controller and front panel buttons.



Click the  button on the playback control bar or press the DIR (Direction) button of the remote controller or the front panel to change the playback direction.



Click the  button on the playback control bar or press the PLAY/PAUSE button during the playback to pause the playback.





When the playback reaches the end of the recorded data, then the playback will pause automatically.

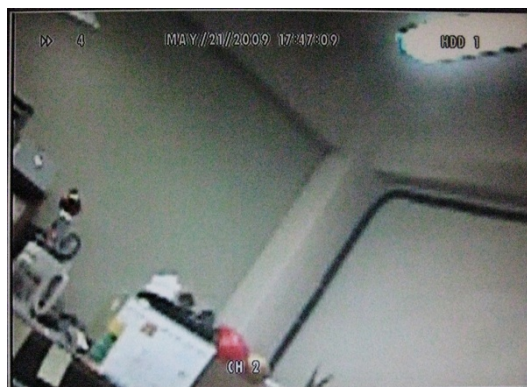
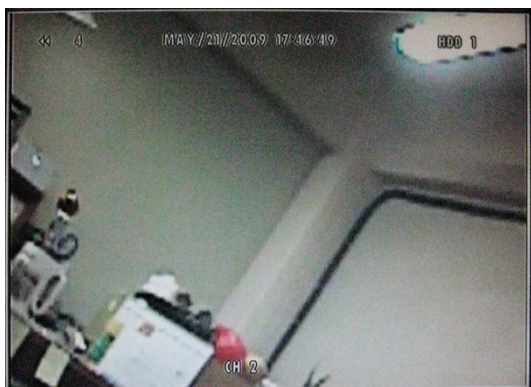
7.7.1.2. FAST FORWARD / REWIND



During the playback or when the playback is paused, the video can be fast forwarded or rewound.

The FAST() button of the playback control bar, the remote controller or the front panel accelerates the speed of playback in one direction. EACH pressing of the button accelerates the speed twice the previous speed. In other words, from normal speed, the acceleration increment is x2, x4, x8, x16, x32, x64 and x128.

Clicking the  button on the playback control bar or pressing the DIR button will change the direction of fast forward to rewind while maintaining the same speed.



7.7.1.3. PICTURE-BY-PICTURE




Pause the playback by pressing the PLAY/PAUSE button of the remote controller or the front panel.


Use the IRIS- and IRIS+ buttons of the remote controller to play or to play in reverse the recorded data picture-by-picture.

7.7.1.4. SLOW



The SLOW () button of the playback control bar, the remote controller or the front panel slows down the speed of playback in one direction. Each pressing of the button further slows down the speed twice the previous speed. In other words, from normal speed, the slow down increment is $x1/2$, $x1/4$, $x1/8$, $x1/16$, $x1/32$, $x1/64$ and $x1/128$.



Clicking the  button on the playback control bar or pressing the DIR button of the remote controller or the front panel will change the direction of slow playback to the opposite direction while maintaining the same speed.

7.7.1.5. LOOP PLAYBACK

The playback can be marked in two different locations so that it can be looped repeatedly.



During any playback mode, press the A button of the remote controller to mark the beginning of the loop, POSITION A.



When the desired location is found, press the B button of the remote controller to mark the end of the loop, POSITION B. The desired location can be reached by any playback functions such as fast forward, slow, and etc.



As soon as the end of the loop is marked, then the playback returns to POSITION A.



When the end of the loop is reached, the playback returns to POSITION A and the loop playback is repeated.

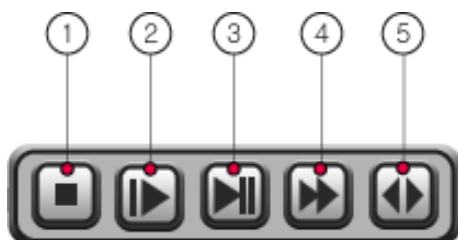


Press the PIP button of the remote controller to exit from the loop playback mode.

7.7.1.6. PLAYBACK BUTTONS



Click the right button of the mouse in playback mode and you can see the playback control bar on the screen like the left picture.



You can control the playback mode by clicking the desired button.

- 1) **STOP:** This button exits the playback mode and returns to the live monitoring mode.
- 2) **SLOW:** Slow playback. Press this button repeatedly to toggle between 1/2 normal playback speeds through 1/128 normal playback speed.
- 3) **PLAY / PAUSE:** Toggles between playback and pause mode.
- 4) **FAST:** Fast forward. Press this button repeatedly to toggle between 2X normal playback speed through 128X normal playback speed.
- 5) **DIRECTION:** Change the playback direction.

7.7.1.7. AUDIO PLAYBACK

The audio is always recorded in real time regardless of the recording speed.

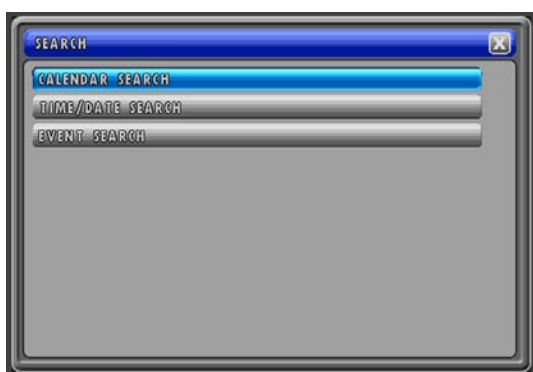
Press the AUDIO SEL button to turn the AUDIO ON or OFF while pressing FUNCTION button.

7.7.2. ADVANCED PLAYBACK

To find and access the recorded data more efficiently, the DVR provides various search modes: calendar search, time/date search and event search.

7.7.2.1. CALENDAR SEARCH

Calendar search provides a quick overview of the year, month, day and hours of the day so that the data can be accessed relatively quickly.



Click the SEARCH icon on the MENU bar or press the SEARCH button of the remote controller and the SARCH menu will be displayed like the left picture.



At the SEARCH menu, Double-click CALENDAR SEARCH or highlight CALENDAR SEARCH using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel to access the CALENDAR SEARCH screen. It will start searching for the data automatically.



The dates that contain recorded data will be displayed in red, whereas dates without data will be in white.

Double-click the desired date or select the desired date using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel.



To change the month, click the MONTH button and then click the desired month or highlight the MONTH button using ▲, ▼, ◀, ▶ buttons and press the ENTER button and then highlight the desired month using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel.



To change the year, click the YEAR button and then click the desired numeric buttons and then click the

ENTER (ENTER) button on the year input box. Or in case of using the remote controller or the buttons of front panel, highlight the YEAR button using ▲, ▼, ◀, ▶ buttons and press the ENTER button and then move the cursor to the desired numeric button using ▲, ▼, ◀, ▶ buttons and then press the ENTER button to select and then move the cursor to the

ENTER (ENTER) button on the year input box and then press the ENTER button.



When a date is selected, the DVR will then search again for the recorded data in a 24-hour period for the date.



The hour blocks that contain data will be displayed in red. Click the desired hour block and then click the PLAY button. In case of using the remote controller or the buttons of front panel, move the highlight to the desired hour block using ◀, ▶ buttons and then move the cursor to PLAY button and then press the ENTER button to start the playback.

Refer to chapter **7.7.1 BASIC PLAYBACK** on page 36 to maneuver through the playback as needed.

7.7.2.2. TIME / DATE SEARCH

Time search provides an overview of the recorded data from the earliest available recording to the latest available recording.



At the SEARCH menu, Double-click TIME/DATE SEARCH or highlight TIME/DATE SEARCH using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel to access the TIME/DATE SEARCH screen.



Select the year, month, date, hour, minutes and seconds of the beginning of the data to retrieve by clicking the left button of the mouse or moving the cursor using the ▲, ▼, ◀, ▶ buttons and pressing the ENTER button of the remote controller or the front panel.

For more detail explanation of value setting, refer to chapter **7.7.2.1. TIME/DATA SEARCH** on page 41.

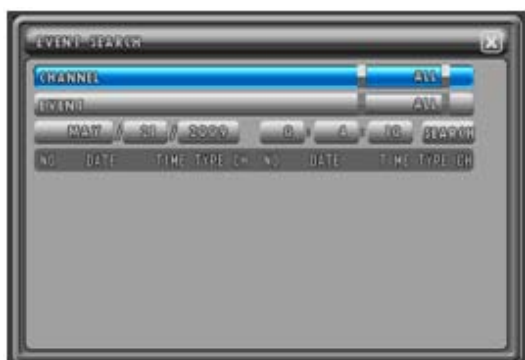


And then click PLAY button on TIME/DATE SEARCH screen or move the cursor to PLAY button using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel to start the playback.

Refer to chapter **7.7.1. BASIC PLAYBACK** on page 36 to maneuver through the playback as needed.

7.7.2.3. EVENT SEARCH

Event search provides an overview of the all event related recordings so that a specific event can be quickly pinpointed and accessed.



At the SEARCH menu, Double-click EVENT SEARCH or highlight EVENT SEARCH using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel to access the EVENT SEARCH screen.



If any of the channels need to be viewed in full screen mode, select the desired channel by clicking the left button of the mouse. Or in case of using the remote controller of the front panel buttons, highlight CHANNEL using the ▲, ▼, ◀, ▶ buttons and press the ENTER button and then highlight the desired channel and press the ENTER button.



Select the event type by clicking the left button of the mouse. Or in case of using the remote controller of the front panel buttons, highlight EVENT using the ▲, ▼, ◀, ▶ buttons and press the ENTER button and then highlight the desired event type and press the ENTER button.



Select the year, month, date, hour, minutes and seconds of the end of the data to retrieve by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, move the cursor using the ▲, ▼, ◀, ▶ buttons and press the ENTER button to input the value. If all events need to be searched up to the present time, leave the time as is. For more detail explanation of value setting, refer to chapter **7.7.2.2. TIME/DATE SEARCH** on page 43.



And then click SEARCH button on EVENT SEARCH screen or move the cursor to SEARCH button using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel and the list of events will appear in chronological order, from the most recent to the oldest.



To start the playback, double-click the desired event or highlight the desired event using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel. The example to the left is playing back motion triggered recording.

Refer to chapter **7.7.1 BASIC PLAYBACK** on page 36 to maneuver through the playback as needed.

7.8. COPY

The DVR is capable of backing up to various media, such as DVD-RW, CD-RW, USB Flash drives, and external hard drives. Please note that besides the optical media, the backup devices must be USB 2.0 compliant and they can be connected to any of the two available USB slots. Every time a backup is made, the mini player will be copied along with the content to facilitate viewing of the backup video on any Windows based personal computers. All backup media will include a multi-channel small viewer.

NOTE:

We recommend you to format the USB devices prior to copy the recorded data as follows, but the Media such as CD RW and DVD RW don't need to format.

Most media can be used with the system, but some of them may be not compatible with. Refer to the included instructions related to Media.

7.8.1. CD-RW / DVD-RW / DVD+RW / DVD RAM

Connect the USB devices to the DVR. RW media was specifically chosen because of its unique ability to be used over and over. Data backups can be written to the same RW disk until its maximum capacity is reached. Once capacity is reached, the disk can then be reformatted and reused over and over.

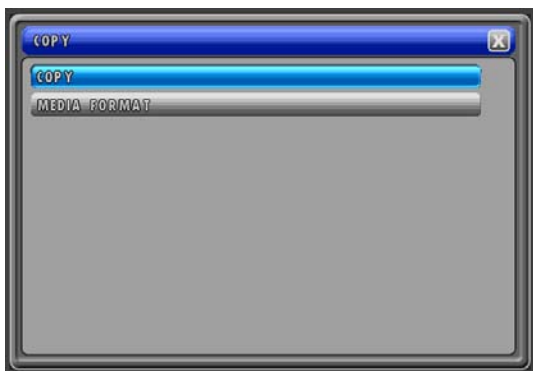
The following manufacturer's models have been tested to be fully compatible with the DVR.

* Recommended Medias

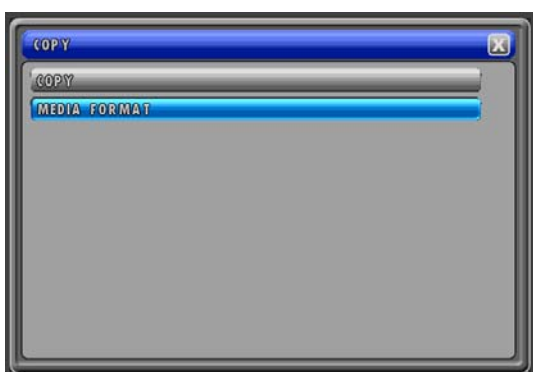
- Imation (CD-R, CD-RW, DVD-RW, DVD+RW)
- Panasonic (DVD RAM)



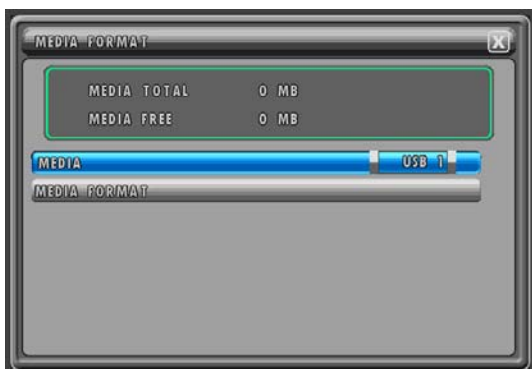
Click the COPY icon on the MENU bar or press the COPY button of the remote controller.



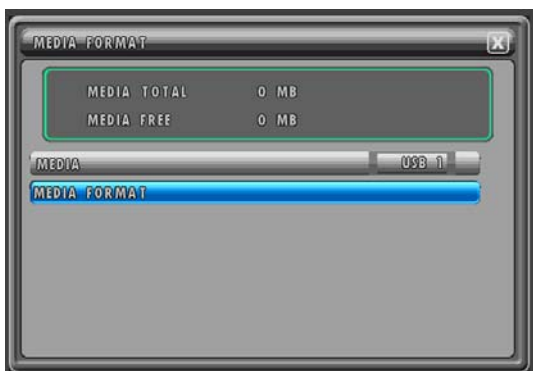
And the COPY menu will be displayed like the left picture.



CD-RW, DVD±RW and DVD RAM media must be formatted prior to backup. Double-click the MEDIA FORMAT or move the cursor to MEDIA FORMAT using the ▲, ▼ buttons of the remote controller or the front panel and then press the ENTER button to access MEDIA FORMAT submenu



Select USB 1 or USB2 by clicking the left button of the mouse. Or press the ENTER button of the remote controller or the front panel and move the cursor using the ▲, ▼ buttons and then press the ENTER button to change the value.



Double-click MEDIA FORMAT to access the media formatting. Or highlight MEDIA FORMAT using the ▲, ▼ buttons of the remote controller or the front panel and then press the ENTER button.



Click YES to begin formatting and double-click NO to cancel. Or move the cursor using the ▲, ▼ buttons of the remote controller or the front panel and then press the ENTER button to select YES or NO.

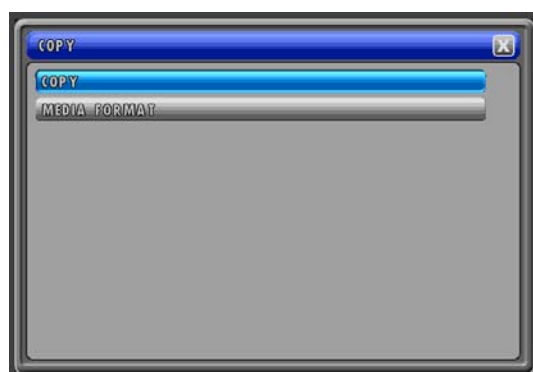


FORMATTING will be displayed during the process. The process may take up to approximately 20 minutes depending on the format of the backup disk.

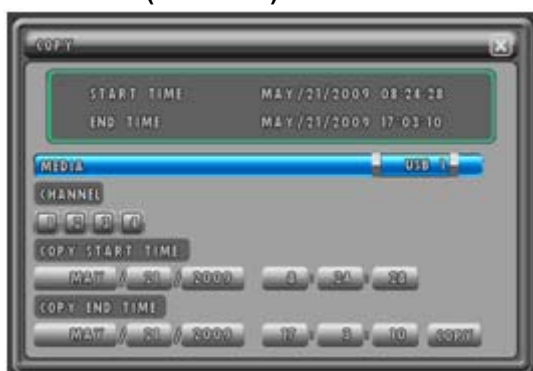


When the process is completed, SUCCESS will be displayed.

Click the X button to return to the previous menu.



Double-click COPY to access the copy submenu. Or highlight COPY using the ▲, ▼ buttons of the remote controller or the front panel and then press the ENTER button.

CDR0460 (4channel)

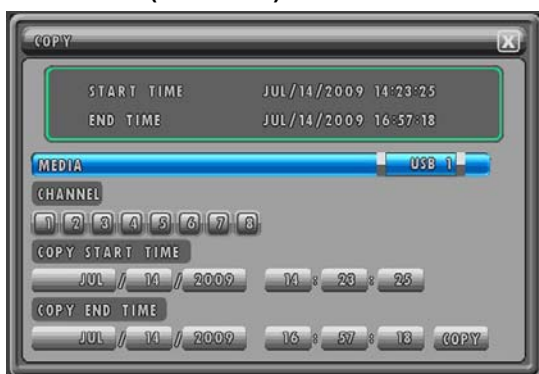
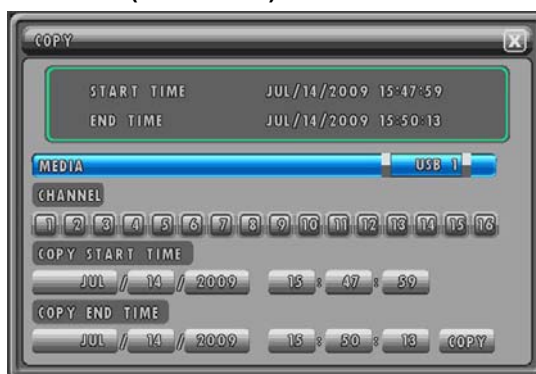
a. Select the MEDIA type (USB 1 or USB 2: DVR USB port number to be connected) by clicking the left button of the mouse or moving the cursor using ▲, ▼ buttons and pressing the ENTER button from the remote controller or the front panel.

b. Select the channels to be backed up. By default, all channels are selected.

To exclude a channel, click a desired channel or highlight a channel number using ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller or the front panel and switch them to "X".

c. Select the beginning time and the end time of the period to be backed up by clicking the left button of the mouse or press the ENTER button and move the cursor using ▲, ▼, ◀, ▶ buttons and then press the ENTER button to select the value.

And then click COPY on the right below or move the cursor to COPY using ▲, ▼, ◀, ▶ buttons and press the ENTER button of the remote controller or the front panel to start the backup.

CDR0860 (8channel)**CDR1660 (16channel)**

The copying progress is displayed on the right upper corner of the screen, and will disappear automatically when the backup process is finished.

The backup disk can be reformatted and reused over and over.



Insert the CD into the CD-ROM or DVD-ROM of a computer, and the small player(file viewer) will load automatically showing all available data for playback.

7.8.2. CD-R

The process is same as above, chapter **7.8.1. CD-RW / DVD-RW / DVD+RW / DVD RAM** on page 45.

After clicking COPY to start the backup and before displaying the copying progress,



The DVR will start creating a buffer for the selected data to be backed up. The status of the buffer being created will be displayed in the upper right corner of the screen.

7.8.3. USB FLASH MEMORY

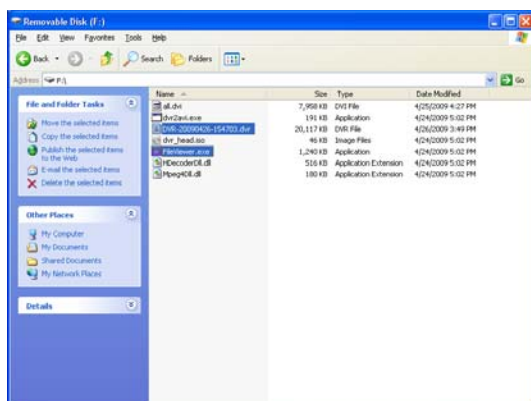
Insert the flash memory into any available USB 2.0 port. The flash memory will light up as it draws power from the DVR.

NOTE:

We recommend USB port 1 for a USB memory stick and USB port 2 for a mouse.

The process is same as above, chapter **7.8.1. CD-RW / DVD-RW / DVD+RW / DVD RAM** on page 45. After finishing the copying progress,

If you want to playback the copied data from the USB Stick, it has plug in the USB device into the USB port of the PC.



The copied files are listed as “Dvr-20060503-202016.dvr”. They can be retrieved and played back using the client software, or the embedded program – “FileViewer.exe”.



Double-click the FileViewer.exe to be created with copied data and the File playback viewer will be displayed.

And select the playing data and then click the Play button.



And you can see the playback image of the selected file like the left picture.

RECOMMENDED USB BRANDS

The USB 2.0 flash memory comes in various sizes, up to 8 Gigabytes of storage per flash memory. It is much faster in comparison to optical media when it comes to copying necessary files. The following manufacturers' models have been tested to be fully compatible with the DVR.

Standard USB A type

SANDISK Cruzer Mini	all capacities
SANDISK Cruzer Micro	all capacities
LEXAR JumpDrive Lightening	all capacities
MEMOREX TravelDrive	all capacities
I/O MAGIC Giga Bank	all capacities
PNY	all capacities
Sony USM4GL	all capacities
Toshiba U2K-002GT(A)	all capacities
HP V120W	all capacities
BMK Technology New MemoRive slim	all capacities
Kingston DataTraveler Mini-Migo	all capacities

Other USB A type

Samsung SUM-LCB8	all capacities
LG UM8	all capacities
Astic ATU_100	all capacities
Memorette Dualgold	all capacities
Axxen I-Passion Sky XM	all capacities
MEMOREX TD Micro Circle Icon	all capacities

As the compatibility is continuously being tested, please check with the seller before using non-listed manufacturers' models.



<Figure1: Other USB A-Type>



<Figure 2: Standard USB A-Type>

NOTE:

User should format a media before using.

We recommend Standard USB A type and we don't recommend use other USB A type. But if user has to use other USB A type, user should turn off the DVR and insert the USB memory stick and then turn on the DVR.

7.8.4. EXTERNAL HARD DISK DRIVE

Follow the same procedure as the USB flash memory in section 7.8.3
Dvico UX-5 has been tested to be fully compatible with the DVR.

NOTE:

When you connect an external HDD via USB port, you have to connect the power of external HDD.

7.8.5. COPY STOP



The backup process can be interrupted at any time during the process.

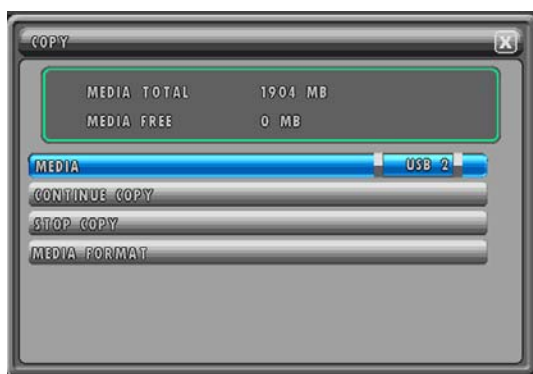
To stop copying, click the COPY icon on the MENU bar or press the COPY button of the remote controller and you can see the STOP COPY window like the left picture.



Double-click YES to stop the backup process. Or in case of using the remote controller or the front panel buttons, highlight YES using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button.

7.8.6. FULL MEDIA CAPACITY DURING COPYING

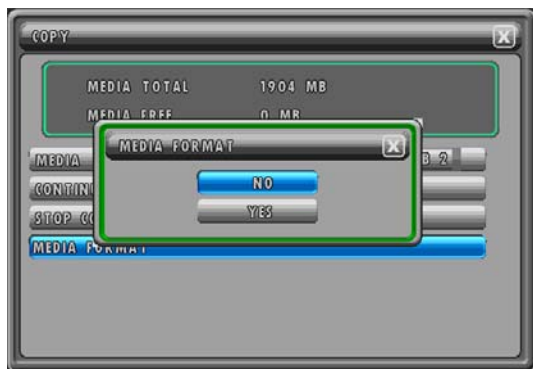
If the media is full during copying, you can see the message, "MEDIA FULL OR FAIL. PRESS [COPY]". At that time, click the COPY icon on the MENU bar or press the COPY button of the remote controller.



And you can see the COPY menu like the left picture.

If the media is full, the MEDIA FREE will be displayed by 0 MB.

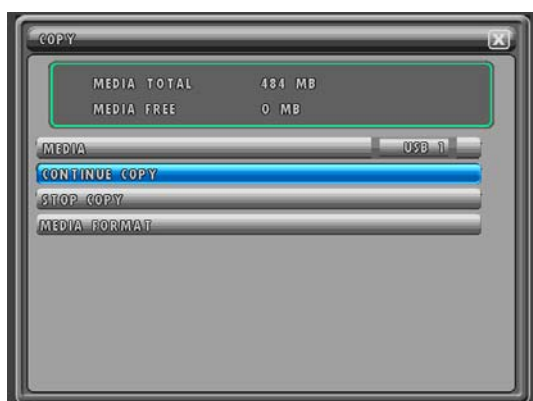
If you progress the continue copy when the media is full, you can see the error message in 10 seconds after starting to copy.



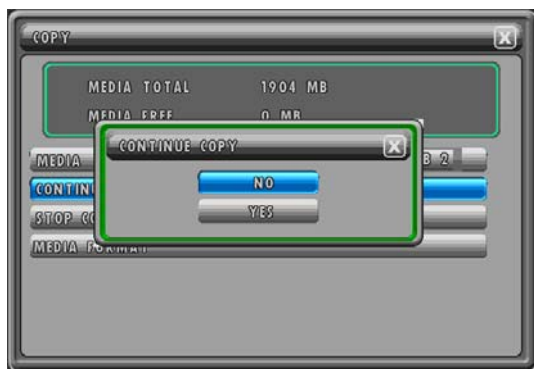
Change to the new media and if you need the media formatting, double-click MEDIA FORMAT to access the media formatting and then double-click YES.

Refer to chapter **7.8.1. CD-RW / DVD-RW / DVD+RW / DVD RAM** on page 45 for more detail explanation of media format.

You can see the total free capacity next to MEDIA FREE.



To continue copying, change to the new media and double-click CONTINUE COPY or highlight CONTINUE COPY using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button of the remote controller of the front panel.



Double-click YES to continue copying. Or in case of using the remote controller or the front panel buttons, highlight YES using the ▲, ▼, ◀, ▶ buttons and then press the ENTER button.

If you want to stop copying, double-click NO or highlight NO and then press the ENTER button.

8. SETUP

It is possible to set up the menus in the live mode and partly in the record mode.



Click the right button of the mouse and the MENU bar will be displayed.

Click the SETUP icon on the MENU bar and the MAIN MENU will be displayed.

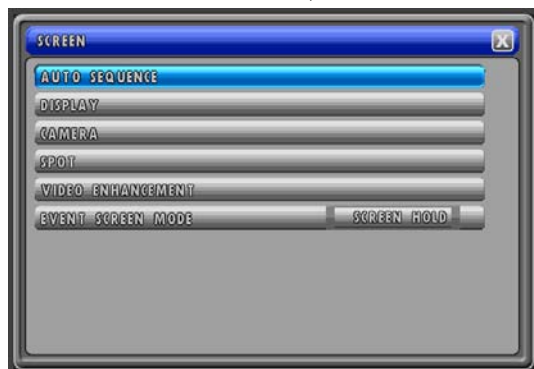
In case of using the remote controller or the front panel buttons, press the MENU button.

In case of using the remote controller or the front panel buttons, use the ▲, ▼, ◀, ▶ buttons to move the cursor and press the ENTER button to select the item.

8.1. SCREEN

Screen setup defines various screen related options. Any changes affect the main video as well as the spot monitor output of the DVR.

At the MAIN MENU,

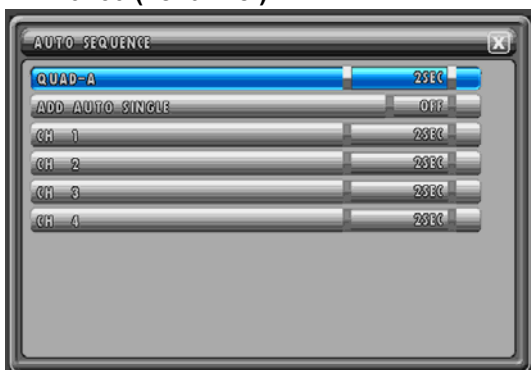


Double-click SCREEN or highlight SCREEN and then press the ENTER button and you can see the SCREEN menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.1.1. AUTO SEQUENCE

CDR0460 (4channel)



At the SCREEN menu, Double-click AUTO SEQUENCE or highlight AUTO SEQUENCE and then press the ENTER button and the AUTO SEQUENCE menu will be displayed like the left picture.

Define the display duration from 0 to 10 seconds. 0 seconds disables the specific display mode's inclusion in the sequence. The default is 2 seconds.

Change the value by clicking the left button of the mouse on each value.

CDR0860 /CDR1660 (8channel /16channel)



In case of using the remote controller or the front panel buttons, move the cursor to the desired item using the ▲, ▼ buttons and press the ENTER button and then select the desired value using the ◀, ▶ buttons and press the ENTER button.

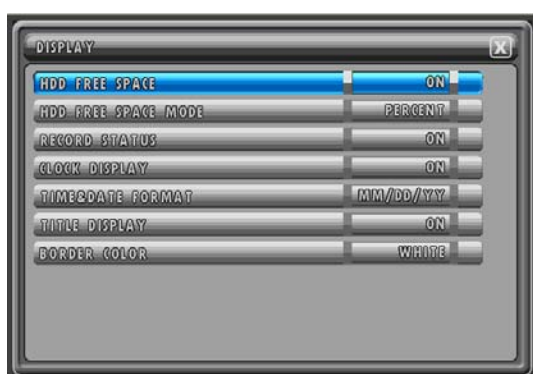
To exit the AUTO SEQUENCE menu, click the X button or press the ESC button of the remote controller or the front panel.

* ADD AUTO SINGLE:

Select the inclusion of single channels in the automatic sequence. The default is off.

8.1.2. DISPLAY

At the SCREEN menu,



Double-click DISPLAY or highlight DISPLAY and then press the ENTER button and the DISPLAY menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.1.2.1. HDD FREE SPACE

Select the display option for the remaining space on the hard disk drive. The default is ON.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight HDD FREE SPACE using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(ON or OFF) and press the ENTER button.

ON: Remaining capacity of the fixed HDDs will be displayed on the screen.

8.1.2.2. HDD FREE SPACE MODE

Select the display mode for the remaining free space on the hard disk drive. The default is in percentage.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight HDD FREE SPACE MODE using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(PERCENT or GIGABYTE) and press the ENTER button.

PERCENT: Remaining capacity of the fixed HDDs will be displayed on the screen in percent.
GIGABYTE: Remaining capacity of the fixed HDDs will be displayed on the screen in gigabyte.

8.1.2.3. RECORD STATUS

Select the display option for the recording status. The default is ON.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight RECORD STATUS using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(ON or OFF) and press the ENTER button.

ON: Displaying the recording status of each channel on the screen.

8.1.2.4. CLOCK DISPLAY

Select the display option for the date and the time. The default is ON.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight CLOCK DISPLAY using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(ON or OFF) and press the ENTER button.

ON: The date and time will be displayed on the screen.

8.1.2.5. TIME & DATE FORMAT

Select the date format. The default is MM/DD/YY.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight TIME & DATE FORMAT using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(MM/DD/YY, DD/MM/YY or YY/MM/DD) and press the ENTER button.

YY/MM/DD : All date and time will be displayed in numbers.
Ex. 2005/01/01 00:00:00
MM/DD/YY : Ex. JAN. 01 2005 00:00:00
DD/MM/YY : Ex. 01. JAN 2005 00:00:00

8.1.2.6. TITLE DISPLAY

Select the display option for the channel title. The default is ON.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight RECORD STATUS using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(ON or OFF) and press the ENTER button.

ON: Each channel title will be displayed on the screen.

8.1.2.7. BORDER COLOR

Select the border color that divides the channels. The default is WHITE.

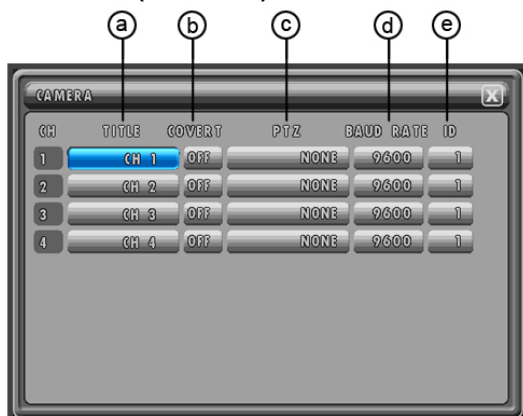
Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight RECORD STATUS using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired value(WHITE or BLACK) and press the ENTER button.

WHITE: The color of the border line will be displayed on the multi-channel screen in white.

BLACK: The color of the border line will be displayed on the multi-channel screen in black.

8.1.3. CAMERA

CDR0460 (4channel)



At the SCREEN menu, Double-click CAMERA or highlight CAMERA and then press the ENTER button and the CAMERA menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

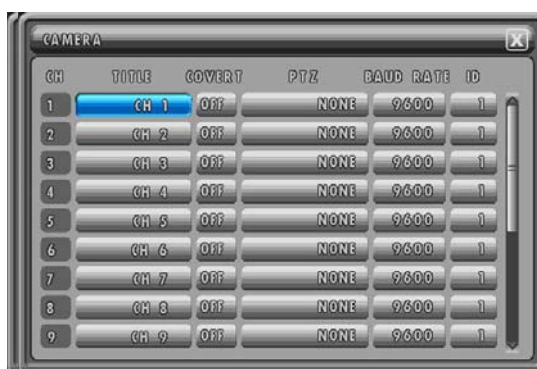
NOTE:

CDR0860 / CDR1660: It can be seen in information of the 8channel or 16channel

CDR0860 (8channel)



CDR1660 (16channel)



a) TITLE (CAMERA NAME)

User can change the CHANNEL TITLE.



Double-click the desired channel button below TITLE in the CAMERA menu and the On Screen Keyboard will be displayed like the left picture.

- Click the desired character or move the cursor by using the directional ▲, ▼, ◀, ▶ buttons and press the ENTER button to select the characters.
- Delete the existing NAME (Camera Title) with the ← button on the On Screen Keyboard.
- Click the X button or press the ESC button to save and exit the changed title.
- Up to eight characters can be entered for the channel title.

b) COVERT (CAMERA ON/OFF)

Each camera can be convert by setting ON or OFF in the CAMERA menu. The covert function is available in the live mode.



Click the COVERT ON/OFF button of the desired channel and select ON or OFF. Or in case of using the remote controller or the front panel buttons, highlight the COVERT ON/OFF button of the desired channel and press the ENTER button and then highlight the desired value and press the ENTER button.

The default is OFF.

ON:

Selected channel will be displayed in black screen (Hidden camera) in the live mode.

c) PTZ

The DVR can control as many Pan / Tilt / Zoom cameras as many as the number of channels it records on. As there are multiple vendors of PTZ cameras, the DVR also supports a variety of protocols. The following is the list of supported manufacturers and their models:

Manufacturer	Model
Pelco	Pelco D
Pelco	Pelco P
Samsung Techwin	SPD
Samsung Techwin	SRX-100B
Canon	VC-C4R
Smile Cam	SD-290
Samsung Electronics	SCC-643
Dongyang Unitech	DSC-230
Panasonic	CS-854
Daiwa	DMP23
LG Electronics	LPT-A100L
Bosch	TC8560/TC700
JVC	TK-C655/C676
Sunkwang	SK-D106
E-RONIX	EZ (Xpress Dome)
Ikegami	PCS-SERIES
Mark Global	QPIX-D
Mark Global	QPIX-P



Click the PTZ button of the channel where the PTZ camera is connected and select the appropriate protocol type. Or in case of using the remote controller or the front panel buttons, highlight the PTZ button of the channel where the PTZ camera is connected and press the ENTER button and then highlight the desired value and press the ENTER button. The default is NONE.

d) BAUD RATE

You have to select the appropriate communication speed. Available speeds are from 1200 to 57600.



Click the BAUD RATE button of the channel where the PTZ camera is connected and select the communication speed. Or in case of using the remote controller or the front panel buttons, highlight the BAUD RATE button of the channel where the PTZ camera is connected and press the ENTER button and then highlight the desired value and press the ENTER button.

The default is 9600.

e) ID

You have to select and match the PTZ camera address. For example, if the PTZ camera is set to address 2, then the ID should be set to 2.



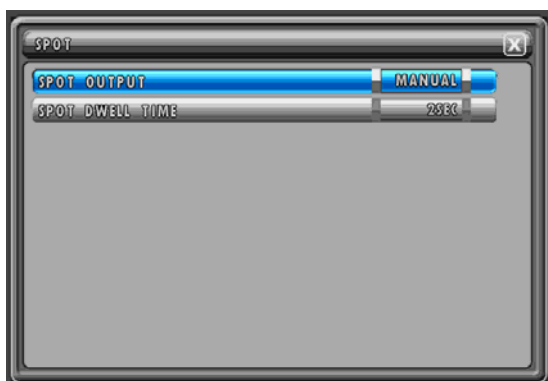
Click the ID button of the channel where the PTZ camera is connected and click the matching PTZ

camera address and then click the ENTER (ENTER) button. Or in case of using the remote controller or the front panel buttons, highlight the ID button of the channel where the PTZ camera is connected and press the ENTER button and then move the cursor using the ▲, ▼, ◀, ▶ buttons and press the ENTER button. Press the ESC button to save and exit the changed value.

The default is 1.

8.1.4. SPOT

At the SCREEN menu,



Double-click SPOT or highlight SPOT and then press the ENTER button and the SPOT menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.1.4.1. SPOT OUTPUT

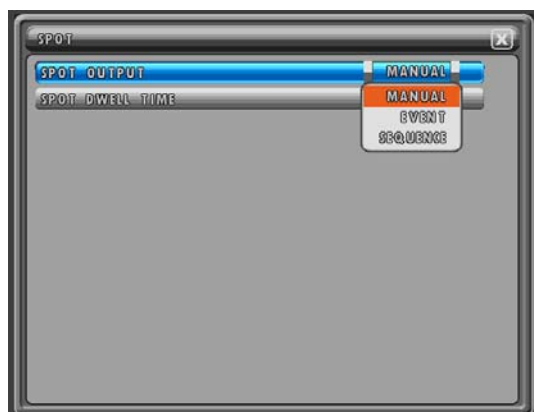
User can select the SPOT OUTPUT type.

There are 3 types of SPOT OUTPUT type namely MANUAL, EVENT and SEQUENCE.

MANUAL: Manually select the channel of spot monitor.

EVENT: Event channel will be displayed automatically on spot monitor.

SEQUENCE: Every single channel will be switching and displaying in sequence.

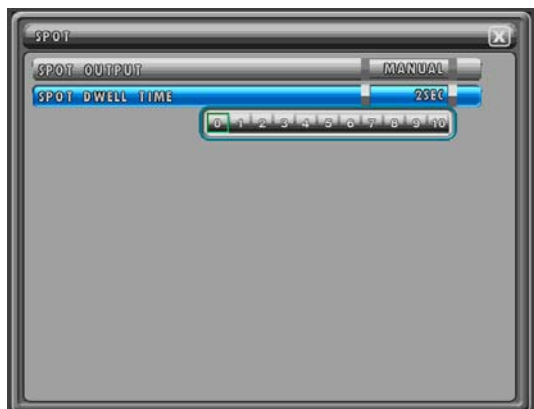


Click the left button of the mouse on the value and select the desired spot mode. Or in case of using the remote controller or the front panel buttons, highlight SPOT OUTPUT using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired spot mode using the ▲, ▼ buttons and press the ENTER button.

The default is MANUAL.

8.1.4.2. SPOT DWELL TIME

Define the spot monitor sequence mode time from 0 to 10 seconds.

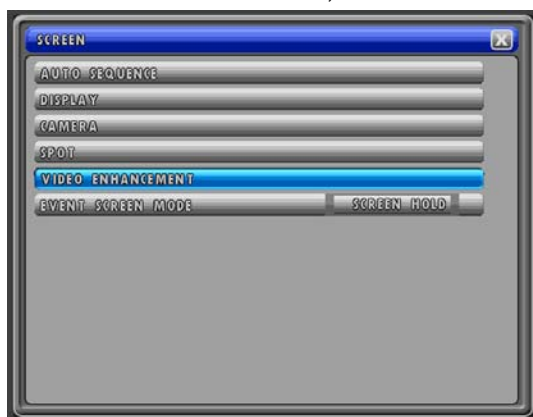


Click the left button of the mouse on the value and select the desired value. Or in case of using the remote controller or the front panel buttons, highlight SPOT DWELL TIME using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired spot mode using the ◀, ▶ buttons and press the ENTER button.

The default is 2 seconds.

8.1.5. VIDEO ENHANCEMENT

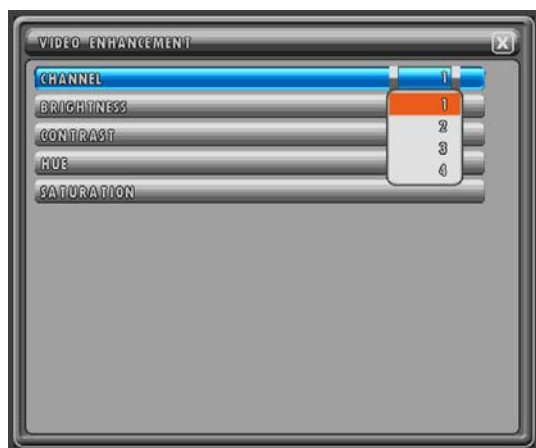
At the SCREEN menu,



Double-click VIDEO ENHANCEMENT or highlight VIDEO ENHANCEMENT and then press the ENTER button and the VIDEO ENHANCEMENT menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.1.5.1. CHANNEL



Click the left button of the mouse on the value and select the channel which needs to be adjusted. Or in case of using the remote controller or the front panel buttons, highlight CHANNEL using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired channel using the ▲, ▼ buttons and press the ENTER button.

The default is 1.

8.1.5.2. BRIGHTNESS

At the VIDEO ENHANCEMENT menu,



Double-click BRIGHTNESS or highlight BRIGHTNESS and then press the ENTER button and the BRIGHTNESS menu will be displayed like the left picture.

Adjust the brightness by clicking or pressing the ◀, ▶ buttons. The default is 50%.

Click the X button or press the ESC button to exit from this screen.

8.1.5.3. CONTRAST

At the VIDEO ENHANCEMENT menu,



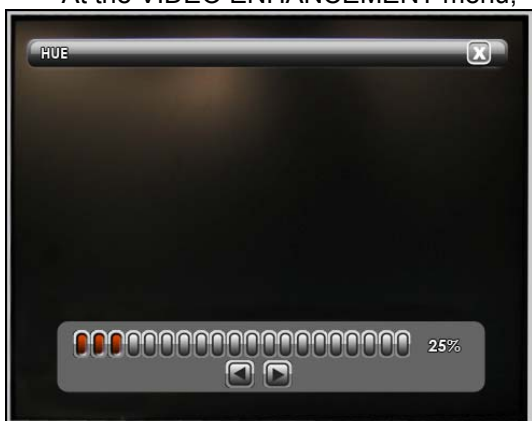
Double-click CONTRAST or highlight CONTRAST and then press the ENTER button and the CONTRAST menu will be displayed like the left picture.

Adjust the contrast by clicking or pressing the ◀, ▶ buttons. The default is 50%.

Click the X button or press the ESC button to exit from this screen.

8.1.5.4. HUE

At the VIDEO ENHANCEMENT menu,



Double-click HUE or highlight HUE and then press the ENTER button and the HUE menu will be displayed like the left picture.

Adjust the hue by clicking or pressing the ◀, ▶ buttons. The default is 50%.

Click the X button or press the ESC button to exit from this screen.

8.1.5.5. SATURATION

At the VIDEO ENHANCEMENT menu,



Double-click SATURATION or highlight SATURATION and then press the ENTER button and the HUE menu will be displayed like the left picture.

Adjust the saturation of the color by clicking or pressing the ◀, ▶ buttons. The default is 50%.

Click the X button or press the ESC button to exit from this screen.

8.1.6. EVENT SCREEN MODE

Define how the main video output reacts when an event occurs.



Click the left button of the mouse on the value and select the desired value. Or in case of using the remote controller or the front panel buttons, highlight EVENT SCREEN MODE using the ▲, ▼ buttons and press the ENTER button and then move the cursor to the desired event screen mode using the ◀, ▶ buttons and press the ENTER button. The default is SCREEN HOLD.

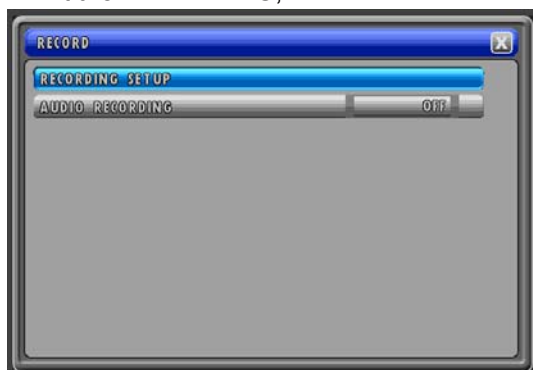
SCREEN HOLD : Maintains the current view mode even if the event occurs.

EVENT F_RTN : When an event occurs, the view mode is changed to that of the channel with the event, and then returns to the previous view mode.

8.2. RECORD

Record setup defines various recording options such as record schedule, audio recording, alarm recording and motion recording etc.

At the MAIN MENU,



Double-click RECORD or highlight RECORD and then press the ENTER button and you can see the RECORD menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.2.1. RECORDING SETUP

Each channel can be individually scheduled and adjusted. Scheduling allows the DVR to record at specific times even when the REC button is not on.

Turning the REC button on means the manual (continuous) recording.

CDR0460 (4channel)



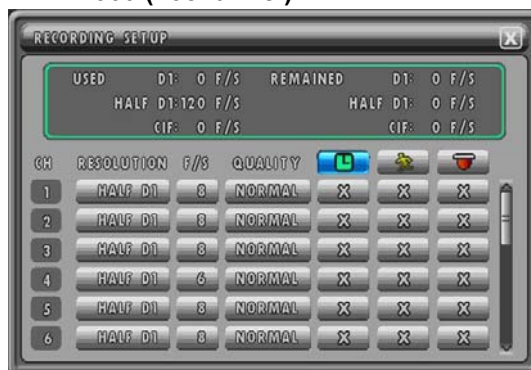
At the RECORD menu, Double-click RECORDING SETUP or highlight RECORDING SETUP using the ▲, ▼ buttons and then press the ENTER button and the RECORDING SETUP menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

CDR0860 (8channel)



CDR1660 (16channel)



8.2.1.1. RESOLUTION

This DVR is capable of recording in three different resolutions: CIF (360 x 240), Half D1 (720 x 240) and D1 (720 x 480).



Click the RESOLUTION button of the desired channel in the RECORDING SETUP menu and select one of the resolutions among D1, HALF D1 and CIF on the pop-up window by clicking the mouse. Or in case of using the remote controller or the front panel buttons, highlight the RESOLUTION button to be changed using the ▲, ▼, ◀, ▶ buttons and press the ENTER button and then select the desired value on the pop-up window using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.

8.2.1.2. RECORDING SPEED (FRAMES PER SECOND)

This allows the user to configure the recording speed (FPS) for each channel.



Click the F/S button of the desired channel in the RECORDING SETUP menu and select one of the recording speed among 1, 2, 4, 5, 6, 8, 10, 15, 30 and OFF on the pop-up window by clicking the mouse. Or in case of using the remote controller or the front panel buttons, highlight the F/S button to be changed using the ▲, ▼, ◀, ▶ buttons and press the ENTER button and then select the desired value on the pop-up window using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.

NOTE:

You can see the used frames and the remained frames on the above window according to setting.

If the entire sum has been exceeded in the middle choice of the F/S, is not a choice.

* Maximum recording rate per resolution

Model	D1	Half D1	CIF
CDR0460 (4channel)	60fps	120fps	120fps
CDR0860 (8channel)	60fps	120fps	240fps
CDR1660 (16channel)	60fps	120fps	240fps

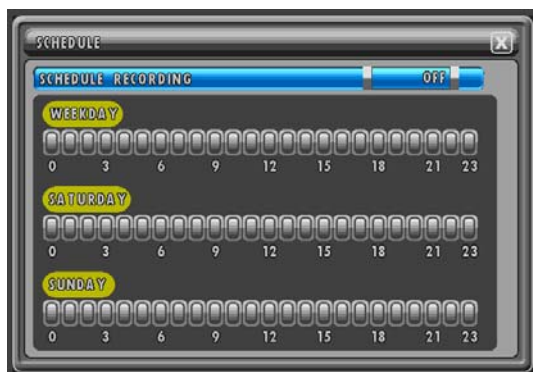
8.2.1.3. QUALITY

Defines the record quality of each channel. There are 4 quality levels, LOW, NORMAL, FINE and BEST.





Click the QUALITY button of the desired channel in the RECORDING SETUP menu and select one of the recording qualities among LOW, NORMAL, FINE and BEST on the pop-up window by clicking the mouse. Or in case of using the remote controller or the front panel buttons, highlight the QUALITY button to be changed using the ▲, ▼, ◀, ▶ buttons and press the ENTER button and then select the desired value on the pop-up window using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.



8.2.1.4. SCHEDULE RECORDING



User can set the SCHEDULE recording of each Channel.

Click the SCHEDULE () button of the desired channel in the RECORDING SETUP menu and you can see the SCHEDULE menu like the left picture. Or in case of using the remote controller or the front panel buttons, highlight the SCHEDULE () button of the desired channel using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.

User can set the SCHEDULE RECORDING to either “ON” or “OFF” by clicking the left button of the mouse.

Or in case of using the remote controller of the front panel buttons, highlight SCHEDULE RECORDING and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. If you set the schedule recording to ON, the SCHEDULE () button will be displayed by “O” and in case of OFF, the SCHEDULE () button will be displayed by “X” in the RECORDING SETUP. The default is OFF.



User can schedule the WEEKDAY, SATURDAY and SUNDAY recording by clicking each hour bar or moving the cursor using the ▲, ▼, ◀, ▶ buttons and pressing the ENTER button. The selected hour will be displayed in red. The default is OFF.

Click the X button or press the ESC button to exit from this screen.

8.2.1.5. MOTION RECORDING



User can set the MOTION RECORDING of each Channel.



Click the MOTION () button of the desired channel in the RECORDING SETUP menu and you can see the MOTION menu like the left picture. Or in case of using the remote controller or the front panel buttons, highlight the MOTION () button of the desired channel using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.

Click the X button or press the ESC button to exit from this screen.

8.2.1.5.1. MOTION RECORDING

Select the MOTION RECORDING to either “ON” or “OFF” by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, highlight MOTION RECORDING and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. If you set the motion recording to ON, the MOTION () button will be displayed by “O” and in case of OFF, the MOTION () button will be displayed by “X” in the RECORDING SETUP. The default is ON.

Click the  button in the RECORDING SETUP menu to enable or disable all channels.

8.2.1.5.2. PRE RECORDING TIME

Select the desired time for PRE RECORDING TIME by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight PRE RECORDING TIME and press the ENTER button and then move the cursor to the desired value using the ◀, ▶ buttons and press the ENTER button. You can select from 0 to 5 seconds for pre record time and the default is 5 seconds.

NOTE:

The pre recording time of all channels will be changed totally.

8.2.1.5.3. POST RECORDING TIME

Select the desired time for POST RECORDING TIME.

Clicking the left button of the mouse on the value and the pop-up window will be displayed.

Click the desired numeric button and then click the ENTER (ENTER) button on the pop-up window. Or in case of using the remote controller or the front panel buttons, highlight POST RECORDING TIME and press the ENTER button and then move the cursor value using the ◀, ▶ buttons and press the ENTER button and then press the ENTER (ENTER) button on the pop-up window. You can select from 0 to 60 seconds for pre record time and the default is 10 seconds.

NOTE:

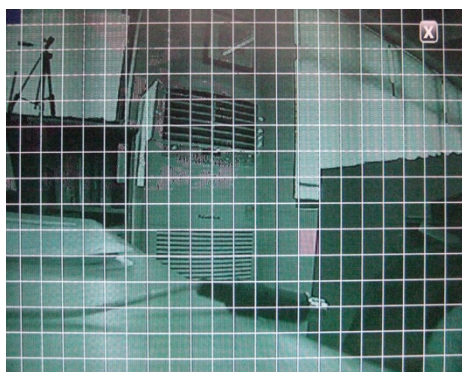
If you change the post recording time of motion recording, the post recording time of alarm recording of the channel will be also changed.

8.2.1.5.4. SENSITIVITY

User can set the SENSITIVITY values by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight SENSITIVITY and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The Sensitivity values are ranged from 1 to 5 and the default is 5.

8.2.1.5.5. AREA SETUP

The Motion Detection Area displays in no tint on the screen and the green tint on the screen represents none of detection area.



Double-click AREA SETUP or highlight AREA SETUP using the ▲, ▼ buttons and then press the ENTER button and the AREA SETUP window will be displayed like the left picture.

Click the desired cell or click one of cells for the starting point of the area which you would like to designate and drag to the other one of cells for the ending point of area until the motion detection area is the size you want it to be.

To able or disable the motion detection, click the cell or click and drag the area again.

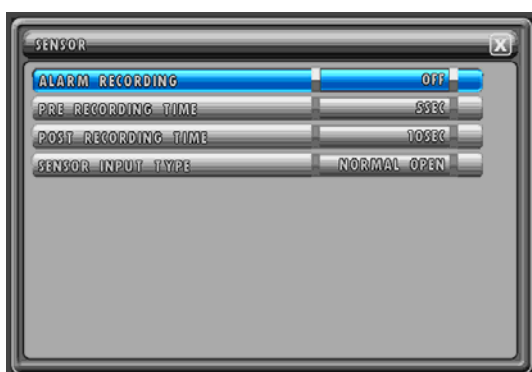
Or in case of using the remote controller or the front panel buttons, move the blue cursor around using the directional buttons and then press the ENTER button to disable each grid. Press the Z+ button of the remote controller to set all cells by motion detection on and press the Z- button of the remote controller to set all cells by motion detection off. The default is on for all grids.


- No tint: motion detection on
- Green tint: motion detection off


Click the X button or press the ESC button to exit from this screen.

8.2.1.6. ALARM RECORDING

User can set the ALARM RECORDING of each Channel.





Click the ALARM () button of the desired channel in the RECORDING SETUP menu and you can see the SENSOR menu like the left picture.

Or in case of using the remote controller or the front panel buttons, highlight the ALARM () button of the desired channel using the ▲, ▼, ◀, ▶ buttons and press the ENTER button.

Click the X button or press the ESC button to exit from this screen.

8.2.1.6.1. ALARM RECORDING

Select the ALARM RECORDING to either "ON" or "OFF" by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, highlight ALARM RECORDING and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. If you set the alarm recording to ON, the ALARM () button will be displayed by "O" and in case of OFF, the ALARM () button will be displayed by "X" in the RECORDING SETUP. The default is ON.

Click the  button in the RECORDING SETUP menu to enable or disable all channels.

8.2.1.6.2. PRE RECORDING TIME

Refer to chapter [8.2.1.5.2. PRE RECORDING TIME](#) on page 66.

8.2.1.6.3. POST RECORDING TIME

Refer to chapter [8.2.1.5.3. POST RECORDING TIME](#) on page 66.

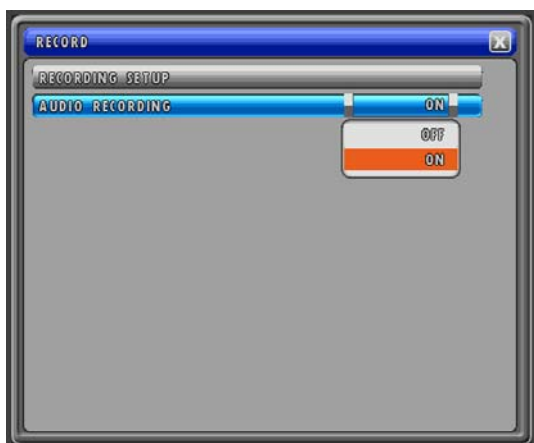
8.2.1.6.4. SENSOR INPUT TYPE

Select the sensor input type or the type of the circuit to be used with each channel by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, highlight SENSOR INPUT TYPE and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button.

Available options are normally closed (NC), normally open (NO) and not used.

The default value is "NORMAL OPEN".

8.2.2. AUDIO RECORDING



User can set the AUDIO RECORDING to either "ON" or "OFF" by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight AUDIO RECORDING and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The Default value is "OFF".

"ON" indicates that the audio will be recorded along with the Video signal.

"OFF" indicates that the no audio will be recorded along with the Video signal.

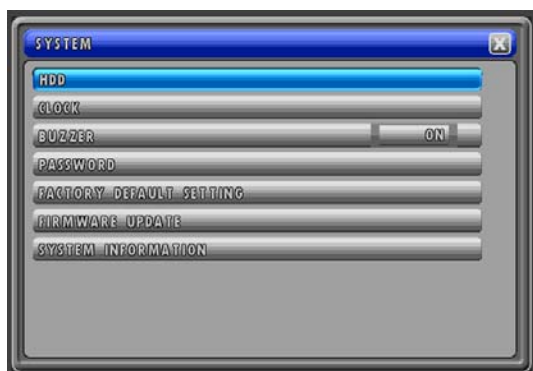
NOTE:

This unit cannot use the Common Microphones. Instead, the User has to connect the audio out of a Camera or a Microphone with a Line Out facility.

8.3. SYSTEM

System setup defines various system settings such as hard disk drive settings, system clock, password for multiple users and buzzer etc. Moreover the system settings can be reinitialized, saved or retrieved from the USB flash memory, as well as updating the DVR firmware.

At the MAIN MENU,

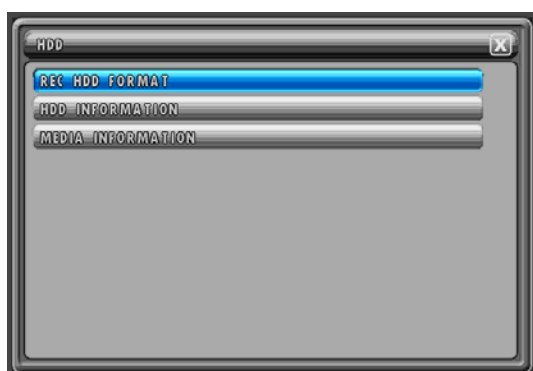


Double-click SYSTEM or highlight SYSTEM and then press the ENTER button and you can see the SYSTEM menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.3.1. HDD (HARD DISK DRIVE)

At the SYSTEM menu,



Double-click HDD or highlight HDD and then press the ENTER button and you can see the HDD menu like the left picture.

User has to format the HDD before using it for recording.

Click the X button or press the ESC button to exit from this screen.

8.3.1.1. REC HDD FORMAT

The hard disk drives set for normal recording can be initialized at any time by accessing this menu.

At the HDD menu,



Double-click REC HDD FORMAT or highlight REC HDD FORMAT and then press the ENTER button and the REC HDD FORMAT window will be displayed like the left picture.

If you want to initialize, double-click YES or move the cursor to YES using the ▲, ▼ buttons and then press the ENTER button.

If you want to cancel the HDD format, double-click NO or move the cursor to NO using the ▲, ▼ buttons and then press the ENTER button.

8.3.1.2. HDD INFORMATION

User can see the details information for the installed HDDs.

At the HDD menu,



Double-click HDD INFORMATION or highlight HDD INFORMATION and then press the ENTER button and the HDD INFORMATION screen will be displayed like the left picture.

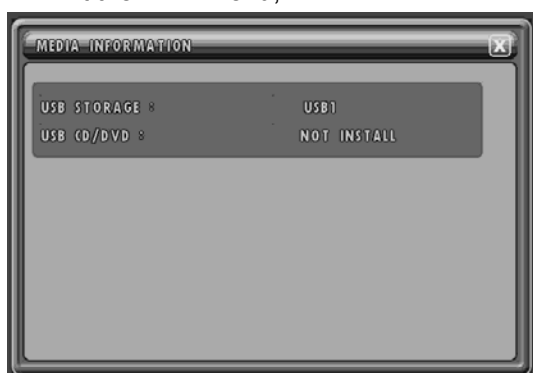
Click the X button or press the ESC button to exit from this screen.

TOTAL SPACE: Displays the total capacity of the HDD.
FREE SPACE: Displays the available free space in the installed HDD.

8.3.1.3. MEDIA INFORMATION

This unit displays whether a Media device like USB Memory stick, External CD/DVD or HDD is connected.

At the HDD menu,

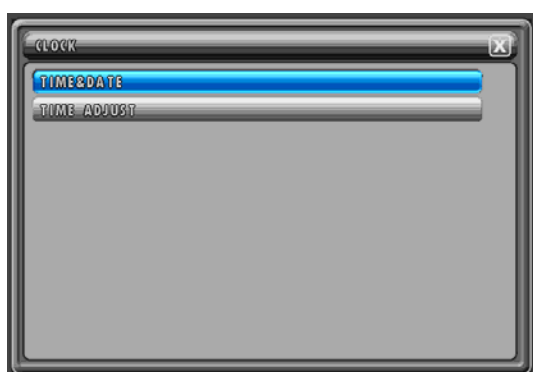


Double-click MEDIA INFORMATION or highlight MEDIA INFORMATION and then press the ENTER button and the MEDIA INFORMATION screen will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.3.2. CLOCK

At the SYSTEM Menu,

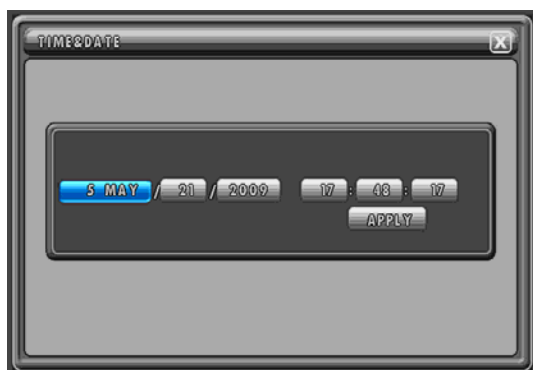


Double-click CLOCK or highlight CLOCK and then press the ENTER button and the CLOCK menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.3.2.1. TIME & DATE

At the CLOCK Menu,



Double-click TIME & DATE or highlight TIME & DATE and then press the ENTER button and the TIME & DATE setup screen will be displayed like the left picture.

Select the values (year/month/date and hour:minute:second) by clicking the left button of the mouse and then click the APPLY button to set. Or in case of using the remote controller or the front panel buttons, use the ▲, ▼, ◀, ▶ buttons to move the cursor and press the ENTER button to select. Press

the ENTER (↵) button on the pop-up window to set the selected value except for month setting. And move the cursor to the APPLY button and then press the ENTER button to set up the changed time and date.

Click the X button or press the ESC button to exit from this screen.

8.3.2.2. TIME ADJUST

At the CLOCK Menu,



Double-click TIME ADJUST or highlight TIME ADJUST and then press the ENTER button and the TIME ADJUST menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.3.2.2.1. INTERNET TIME ADJUST

Select automatic time adjustment through internet time server on or off by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight INTERNET TIME ADJUST and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The default is OFF.

NOTE:

If the INTERNET TIME ADJUST is "ON", the time of DVR will be adjusted to the time offered by the internet server.

10 IP addresses of the time server are set in the DVR so the DVR will be adjusted the time with one of 10 IP addresses to have been set in advance.

8.3.2.2.2. SELECT TIME ZONE

Select the time zone for the local time by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight SELECT TIME ZONE and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. For the list of the time zone for your local area, refer to the below TIME ZONE LISTING.

The default GMT is GMT-08:00.

Refer to Appendix 1. TIME ZONE LISTING on page 99.

NOTE:

You have to match the GMT related to their Country Zone.

8.3.2.2.3. DAYLIGHT SAVING TIME

Select the DAYLIGHT SAVINGS TIME option on or off by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight DAYLIGHT SAVING TIME and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The default value is "OFF".

If the DAYLIGHT SAVING TIME sets "ON", define the daylight savings time starting and ending month, week, day and time by clicking the mouse or using the ▲, ▼, ◀, ▶ buttons to move the cursor and pressing the ENTER button to select.

8.3.2.3. TIME TRIMMING

Normally, Clover is using the time trimming setting if the time is incorrect over 2 sec per day. When booting, you can see the TIME TRIMMING setup screen.



<How to set up>

NOTE:

You can set the time trimming only with a Remote Controller.

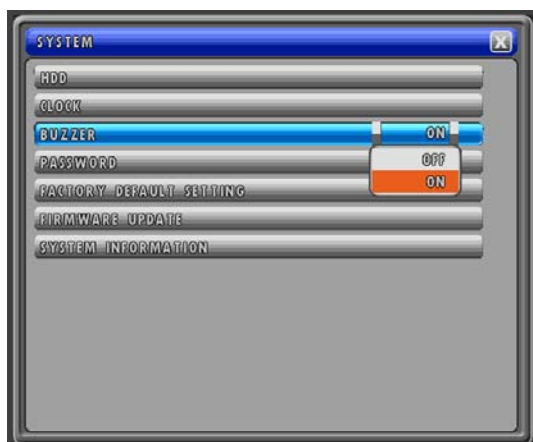
1. Press "<(AR_RESET)" or ">(D-ZOOM)" button when "TIME TRIMMING: xxxxx" message is displayed on the monitor.
2. "<" button means minus time adjustment and the second will be faster as much as setting time. ">" button means plus time adjustment and the second will be slower as much as setting time. For example, if one second per day is fast, please plus one second and if one second per day is slow please minus one second and you can see -1 or +1 on the monitor. (You can adjust from -9 to +9 and you can use "0~9" buttons or "<, >" buttons.)
3. Press "ENTER" button to save and exit. If over 5 seconds passes without pressing "ENTER" button, the setup will be canceled and the DVR will enter to the normal DVR mode.

** You have to adjust several times to get the exact time.

8.3.3. BUZZER

You can hear the beep sound when event occurs or key operation if the BUZZER setup is ON.

At the SYSTEM menu,



Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight BUZZER and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The Default value is ON.

ON: The beep sounds when you press any buttons on the front panel of DVR or remote controller or click the mouse and any event happens.

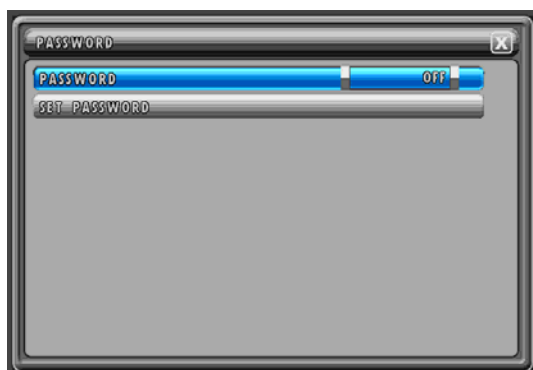
OFF: The beep does not sound.

NOTE:

Whenever there is Video Loss, Alarm, Motion or HDD error, this unit will display the specific message continuously for 30 seconds with an alarming sound having an interval of 5 Seconds each

8.3.4. PASSWORD

At the SYSTEM menu,

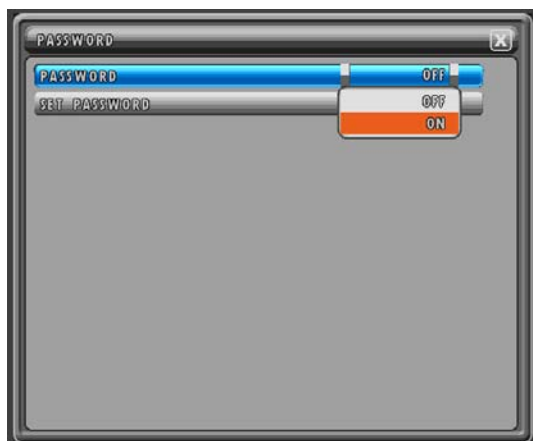


Double-click PASSWORD or highlight PASSWORD and then press the ENTER button and the PASSWORD menu will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.3.4.1. PASSWORD

At the PASSWORD menu,



Select the PASSWORD option on or off by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight PASSWORD and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The Default value is OFF.

When enabled, it will prompt for password on the following functions.

- REC button
- Search button
- Play button
- Direction button

- Copy button
- Live Audio selection
- Main Menu button
- PTZ control button

NOTE:

In case of the **PASSWORD CHECK** is **ON**, only **ADMIN** can set the **NEW PASSWORD**.

8.3.4.2. SET PASSWORD

At the **PASSWORD** menu,



Double-click **SET PASSWORD** or highlight **SET PASSWORD** and then press the **ENTER** button and the **PASSWORD INPUT** screen will be displayed like the left picture.

Click the **X** button or press the **ESC** button to exit from this screen.

To modify the password, click the numeric buttons to enter the current password. Or in case of using the remote controller or the front panel buttons, move the cursor using the ◀, ▶ buttons and press the **ENTER** button to input.

The asterisks will advance automatically as the numbers are entered.
The default password is 11111111.



If the entered password is correct, the new password input screen will be displayed like the left picture. (If the password is not eight digits, you have to click the **ENTER** (ENTER) button to enter the new password input screen.)

Enter eight numbers for the new password and then re-enter the same password under **CONFIRM** section same as the current password input method.



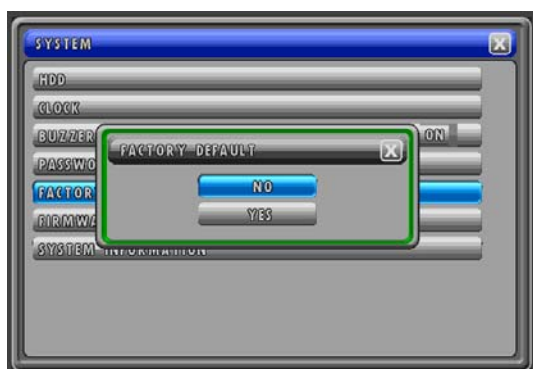
When finish the password setting correctly, you can see the message, "NEW PASSWORD NOW ACTIVE" like the left picture.

NOTE:

User can set a **PASSWORD** up to eight digits.

8.3.5. FACTORY DEFAULT SETTING

At the SYSTEM menu,



Double-click FACTORY DEFAULT SETTING or highlight FACTORY DEFAULT SETTING and then press the ENTER button and the FACTORY DEFAULT window will be displayed like the left picture.

Double-click YES to reset all menu settings back to factory default. Or double-click NO or click the X button to exit without resetting.

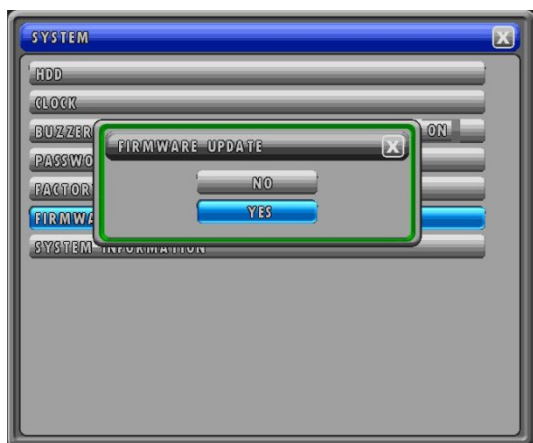
In case of using the remote controller or the front panel buttons, move the cursor using the ▲, ▼ buttons and press the ENTER button.

Refer to **Appendix 12.3. FACTORY DEFAULT VALUES** on page 109.

8.3.6. FIRMWARE UPDATE

The DVR's software can be upgraded for the latest feature updates, fixes and improvements via the USB flash memory. The USB flash memory with the upgrade file must be inserted into the front USB port.

At the SYSTEM menu,



Double-click FIRMWARE UPDATE or highlight FIRMWARE UPDATE and then press the ENTER button and the FIRMWARE UPDATE window will be displayed like the left picture.

Double-click YES to begin the firmware update. Or double-click NO or click the X button to exit without resetting.

In case of using the remote controller or the front panel buttons, move the cursor using the ▲, ▼ buttons and press the ENTER button.



Upgrading percent message

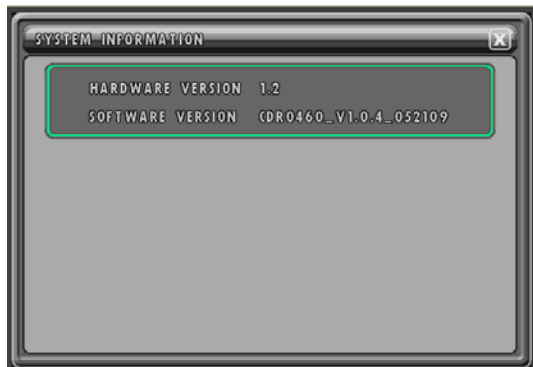


Reboot the system message

8.3.7. SYSTEM INFORMATION

System Information provides the information about the Software version (Firmware version) of the DVR and Hardware version of the FPGA chip.

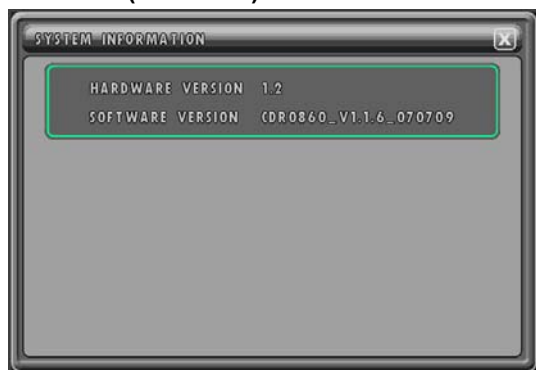
CDR0460 (4channel)



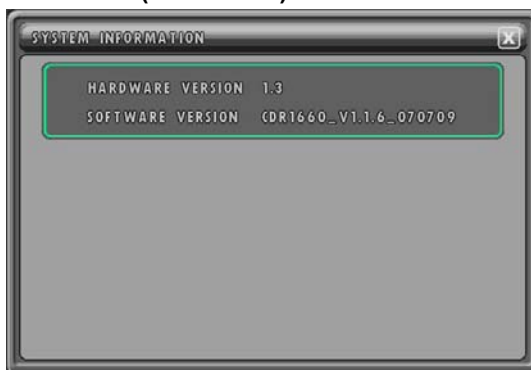
At the SYSTEM menu, Double-click SYSTEM INFORMATION or highlight SYSTEM INFORMATION and then press the ENTER button and the SYSTEM INFORMATION screen will be displayed like the left picture.

Click the X button or press the ESC button to exit from this screen.

CDR0860 (8channel)

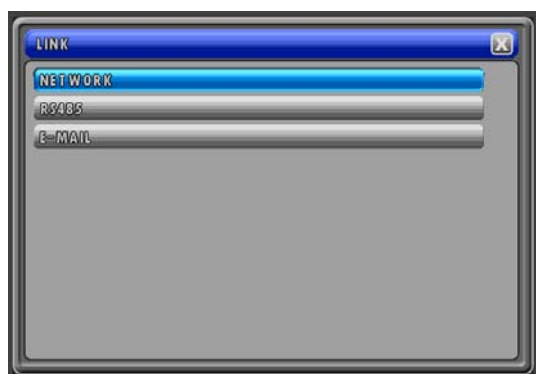


CDR1660 (16channel)



8.4. LINK

Link setup defines various settings such as internet connection, RS-485 and e-mails.

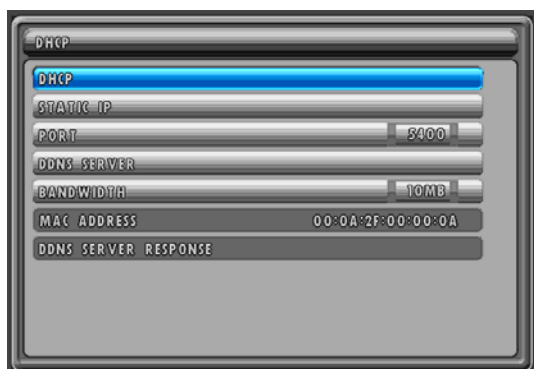


At the MAIN MENU, Double-click LINK or highlight LINK and then press the ENTER button and you can see the LINK menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.1. NETWORK

At the LINK menu,



Double-click NETWORK or highlight NETWORK and then press the ENTER button and you can see the NETWORK menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.1.1. DHCP

At the NETWORK menu,



Double-click DHCP or highlight DHCP and then press the ENTER button and you can see the DHCP menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

Select the DHCP option ON or OFF by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, highlight DHCP and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button.

The default is OFF.

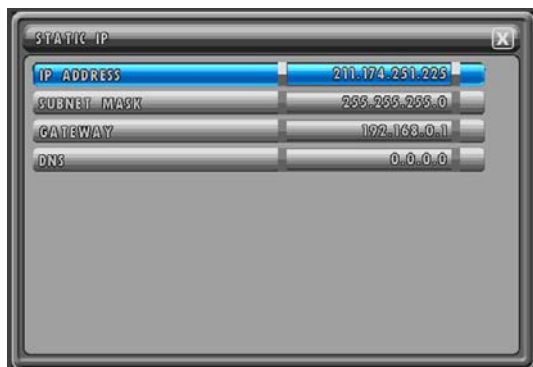
DHCP (Dynamic Host Configuration Protocol) automates the assignment of the IP address, Subnet Mask, Gateway and other IP parameters. The DHCP should be enabled (ON) in order to utilize DDNS (Refer to section **8.4.1.4. DDNS SERVER** on page 77).

ON:

If the DHCP is set to ON, the DVR will disregard the static IP and use a dynamic IP and you can see the information, IP ADDRESS, SUBNET MASK, GATEWAY and DNS to be provided by DHCP.

8.4.1.2. STATIC IP

At the NETWORK menu,




Double-click STATIC IP or highlight STATIC IP and then press the ENTER button and you can see the STATIC IP menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.1.2.1. IP ADDRESS

Define the IP address if the DHCP is set to off. The DVR should be provided with its own static IP address.

Click the left button of the mouse on the value and the pop-up window will be displayed. Click

the buttons and then click the ENTER () button to enter the IP address. Or in case of using the remote controller or the front panel buttons, highlight IP ADDRESS and press the ENTER button and the pop-up window will be displayed. And move the cursor to the desired value using the ▲, ▼, ◀, ▶ buttons and press the ENTER button. And move the cursor to the ENTER button on the pop-up window and press the ENTER button.

8.4.1.2.2. SUBNET MASK

Define the subnet mask. The subnet mask should also be provided along with the IP address.

Refer to chapter **8.4.1.2.1. IP ADDRESS** on page 77 for setting.

8.4.1.2.3. GATEWAY

Define the gateway. The gateway should also be provided along with the IP address and the subnet mask.

Refer to chapter **8.4.1.2.1. IP ADDRESS** on page 77 for setting.

8.4.1.2.4. DNS

Define the DNS (Domain Name Server). If the internet time server and/or the SMTP e-mail server are to be setup using alphabet rather than numbers, then the DNS must be defined in order for the DVR to locate the servers. The DNS is usually provided from the Internet Service Provider.

Refer to chapter **8.4.1.2.1. IP ADDRESS** on page 77 for setting.

8.4.1.3. PORT

Define the port that the DVR will communicate through. Available ports are 5400 through 5499.

Refer to chapter **8.4.1.2.1. IP ADDRESS** on page 77 for setting.

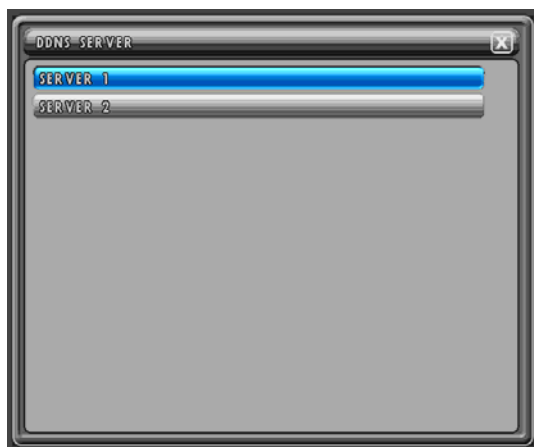
The default port is 5400.

8.4.1.4. DDNS SERVER

Define the primary dynamic IP server's address and the secondary dynamic IP server's address if a proprietary server is to be setup and used in conjunction with the DVR.

The Maker provides a dynamic IP server to find the DVR even if it is connected on a dynamic IP service.

At the NETWORK menu,



Double-click DDNS SERVER or highlight DDNS SERVER and then press the ENTER button and you can see the DDNS SERVER menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.1.4.1. SERVER 1

At the DDNS SERVER menu,



Double-click SERVER 1 or highlight SERVER 1 and then press the ENTER button and you can see the IP address input screen like the left picture.

Click the X button or press the ESC button to exit from this screen.

Input the IP address by clicking the mouse or using the directional buttons to move the cursor and pressing the ENTER button to select the character. The default is 211.174.251.155, the server to be provided from maker.

8.4.1.4.2. SERVER 2

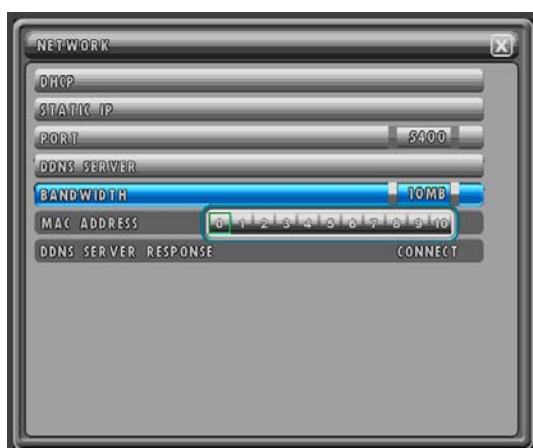


Refer to chapter **8.4.1.4.1. SERVER 1** on page 78 for setting.

The default is 211.174.251.160, the server to be provided from maker.

8.4.1.5. BANDWIDTH

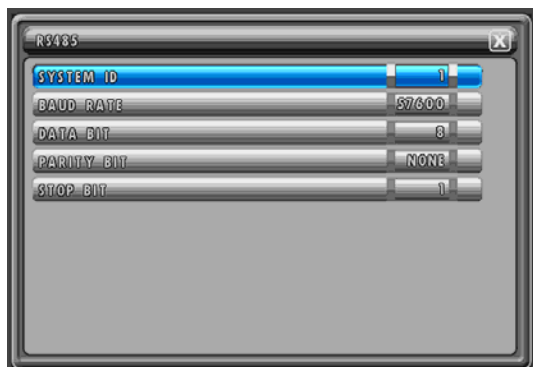
Select between 0MB to 10MB to optimize your network performance. The default is 10MB.



Select the value by clicking the left button of the mouse. Or in case of using the remote controller or the front panel buttons, use the ◀, ▶ buttons to move the cursor and press the ENTER button to select.

8.4.2. RS485

At the LINK menu,



Double-click RS-485 or highlight RS-485 and then press the ENTER button and you can see the RS-485 menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.2.1. SYSTEM ID

Select the DVR's system ID between 0 to 255. The system ID should be issued when controlling multiple DVRs with a keyboard controller. The address should also be issued when controlling PTZ cameras from the DVR. The default ID is 1.

Refer to chapter [8.4.1.2.1. IP ADDRESS](#) on page 75 for setting.

8.4.2.2. BAUD RATE

Select the communication speed. Available speeds are from 1200 to 57600.

Click the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight BAUD RATE and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button.

The default speed is 57600.

8.4.2.3. DATA BIT

Select the data bit. Available options are 6 to 8. The default bit is 8.

Refer to chapter [8.4.2.2. BAUD RATE](#) on page 79 for setting.

8.4.2.4. PARITY BIT

Select the parity bit. Available options are ODD, EVEN and NONE. The default is NONE.

Refer to chapter [8.4.2.2. BAUD RATE](#) on page 79 for setting.

8.4.2.5. STOP BIT

Select the stop bit. Available options are 1 and 2. The default is 1.

Refer to chapter [8.4.2.2. BAUD RATE](#) on page 79 for setting.

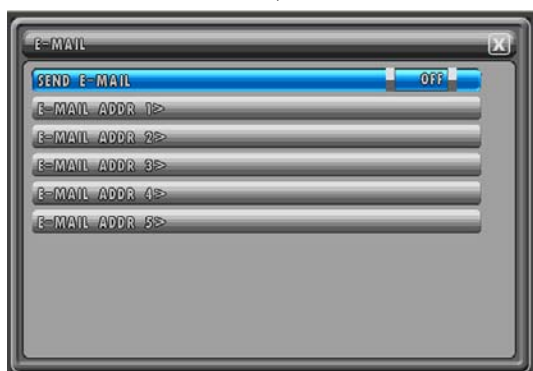
8.4.3. E-MAIL

The DVR is capable of sending e-mails when an event occurs to up to five different e-mail addresses.

NOTE:

If you want to use this function, you have to input DNS address.

At the LINK menu,



Double-click E-MAIL or highlight E-MAIL and then press the ENTER button and you can see the E-MAIL menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

8.4.3.1. SEND E-MAIL

Select the e-mail notification on or off by clicking the left button of the mouse on the value. Or in case of using the remote controller or the front panel buttons, highlight SEND E-MAIL and press the ENTER button and then move the cursor to the desired value using the ▲, ▼ buttons and press the ENTER button. The default is OFF.

8.4.3.2. E-MAIL ADDRESS SETUP

Enter the DVR's e-mail address as assigned by the network administrator, or create one that conforms with the specification of the Internet Service Provider.

NOTE:

You have to set up the E-MAIL ADDRESS 1 to use the e-mail notification function



Double-click one of E-MAIL ADDRESS 1~5 or highlight one of E-MAIL ADDRESS 1~5 and then press the ENTER button and you can see the E-MAIL ADDRESS input screen like the left picture.

Enter the e-mail address by clicking the mouse or moving the cursor using the ▲, ▼, ◀, ▶ buttons and pressing the ENTER button.

Click the X button or press the ESC button to save and exit from this screen.

If you want to delete the characters entered, using the space button.

NOTE : Delete is erased from the front.

NOTE:

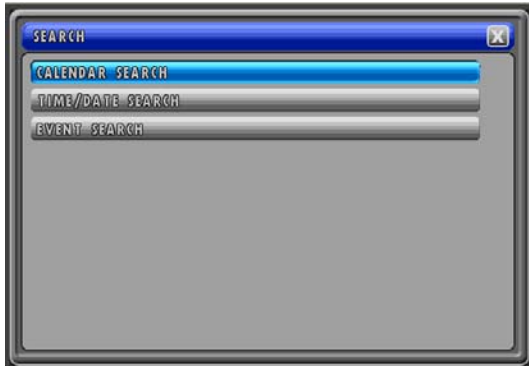
The Server can notify the following messages via Email.

- a) Alarm
- b) Power On
- c) HDD Fail
- d) V-Loss

Please note that this unit doesn't notify the Motion event type message due to incapability of large file size and frequent motions.

8.5. SEARCH

At the MAIN MENU,



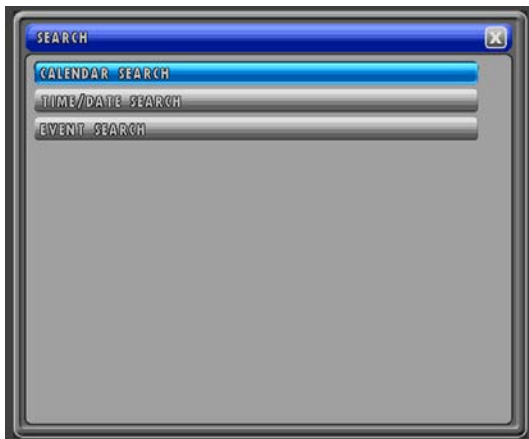
Double-click SEARCH or highlight SEARCH and then press the ENTER button and you can see the SEARCH menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

Refer to chapter **7.7.2. ADVANCED PLAYBACK** on page 41.

8.6. COPY

At the MAIN MENU,



Double-click COPY or highlight COPY and then press the ENTER button and you can see the COPY menu like the left picture.

Click the X button or press the ESC button to exit from this screen.

Refer to chapter **7.8. COPY** on page 45.

9. CLIENT PROGRAM: DVR VIEWER

The DVR Viewer is a dedicated client program that connects to, monitors and manages up to 16 DVRs simultaneously.

9.1. SYSTEM REQUIREMENT

The DVR Viewer receives, decodes and displays data for up to 16 DVRs or up to 256 cameras simultaneously requiring a powerful personal computer to take full advantage of the program.

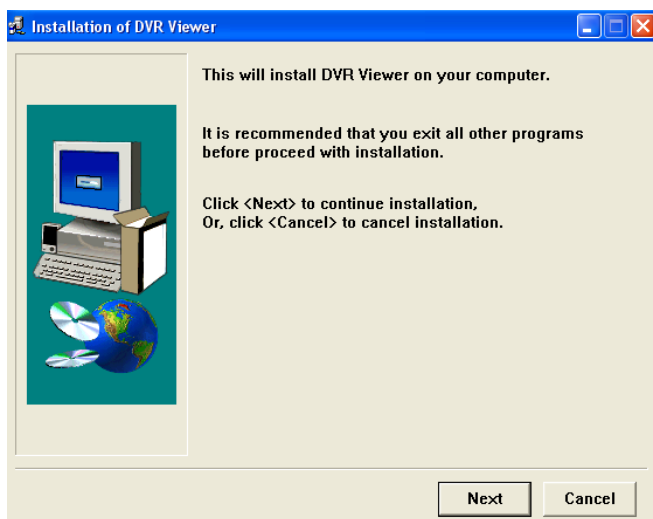
The following is the recommended PC specification.

	Recommended
OS	Windows XP/Vista
CPU	Pentium IV 2.8 Ghz
RAM	512MB
Video Card	128MB
Free Space	2GB
Resolution	1024x768x32
DirectX	DirectX 9.0c
Network	Ethernet 10/100B-TX
Port	Port 5400 ~ 5499 TCP

9.1.1. INSTALLING THE DVR VIEWER & H.264 CODEC

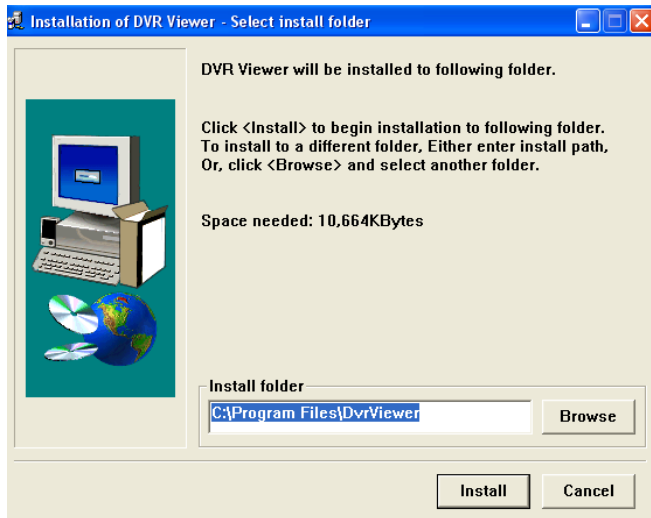
9.1.1.1. DVR VIEWER INSTALLATION

Insert the program CD into the CD-ROM or DVD-ROM drive of the computer and locate the SETUP.EXE file. Double-click on the setup file, and the program will start the installation.

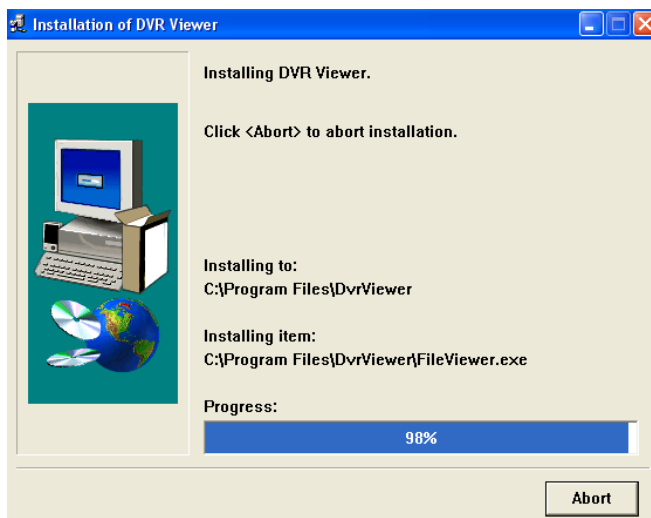


Click on NEXT.

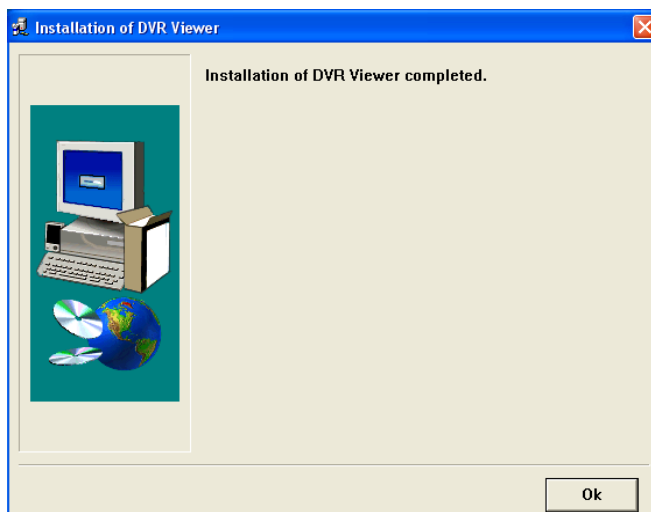
The DVR viewer will be installed in its default folder of C:\Program Files\DVR\DVR-Viewer. If the folder needs to be changed, click on 'BROWSE...' button and then select a different folder.



Click on 'INSTALL' for installing the program.



Click on 'OK' to finish the Installation process.

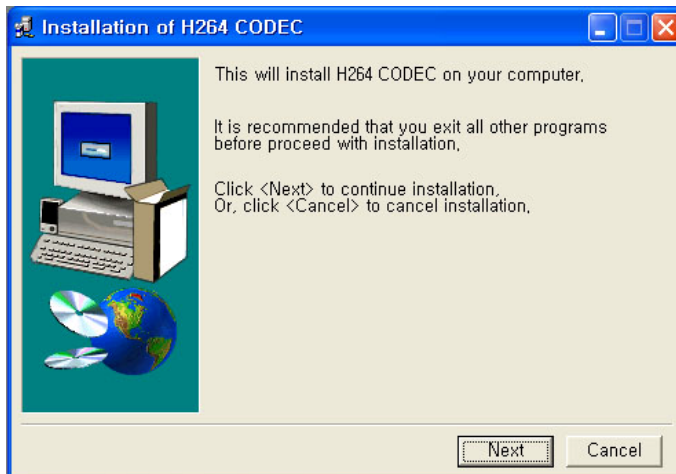


NOTE:

In case of the Windows XP OS, user has to download the UDF drivers prior to the installation of the DVR Viewer Program because the DVR is using the UDF file system while copying and playing the data.

9.1.1.2. CODEC INSTALLATION

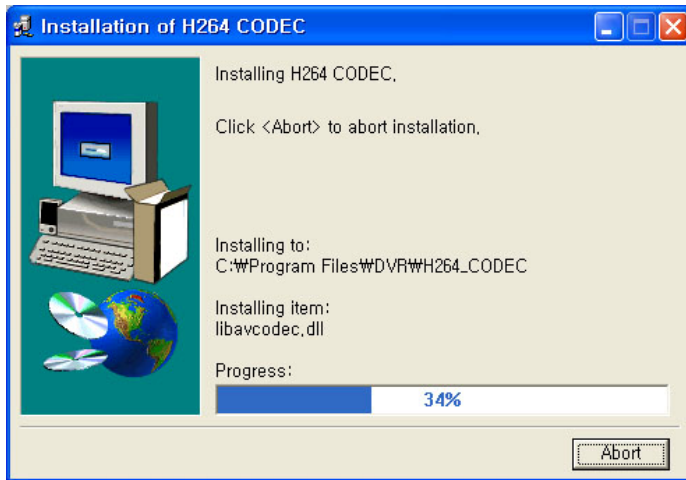
After DVR VIEWER setup is complete, CODEC installation will start the message. Click on NEXT.



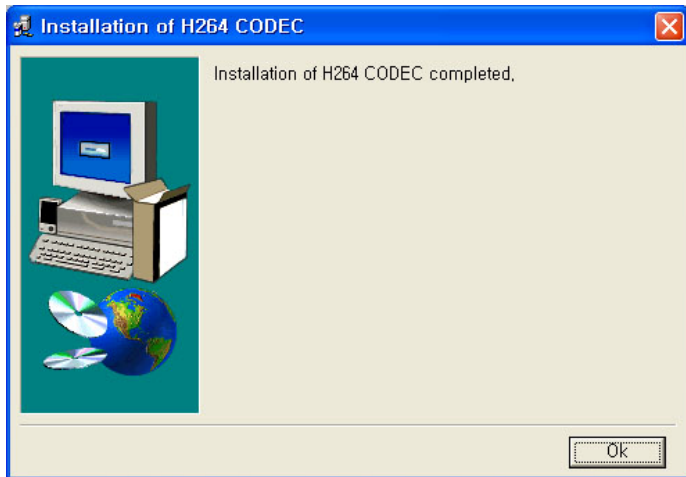
CODEC will be installed in its default folder of C:\Program Files\DVR\H.264_CODEC. If the folder needs to be changed, click on 'BROWSE...' button and then select a different folder.



Click on 'INSTALL' for installing the program.



Click on 'OK' to finish the Installation process.



9.2. VIEWER - LAYOUT

Locate the DVR Viewer icon on the desktop and double-click on it to run the client software. The program can also be located in START- Programs – DVR-Viewer.

CDR0460 (4channel)



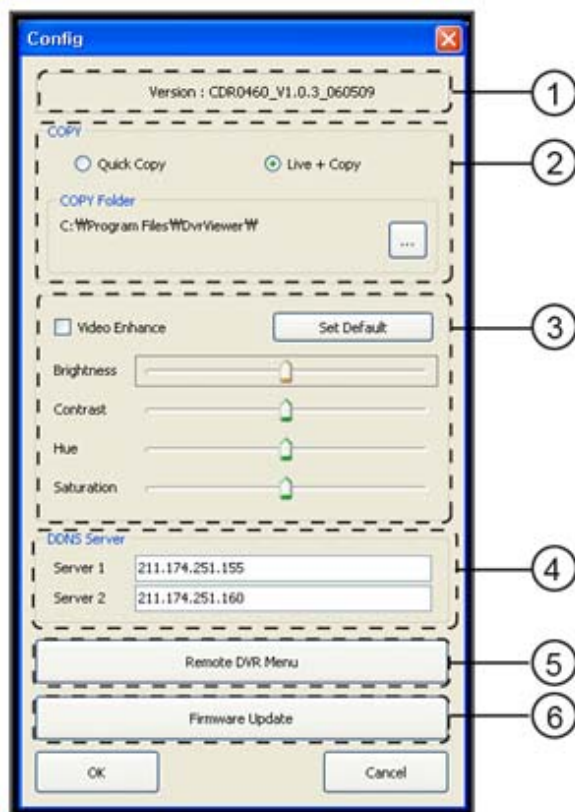
NOTE :

This unit can support only 1 Relay output. If the Alarm is triggered, you can see the 1 channel LED of the Relay out will turn to "RED".

Table. Description of DVR VIEWER Program.

- 1) Minimization Button.
- 2) Close Button.
- 3) Current Time.
- 4) Connection Button.
- 5) Config Button.
- 6) Player Execution Button.
- 7) Capture Button.
- 8) PAN /TILT Control Button
- 9) Zoom Button
- 10) Focus Button
- 11) Iris Button
- 12) Preset Button.
- 13) Microphone Button.
- 14) PC Speaker Button.
- 15) Copy/ Status Button
- 16) Display information about the Connected Camera, Sensor.
- 17) Channel Button.
- 18) Splits the screen in 4, 9, 16 & Full Screen Display.

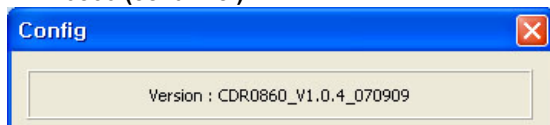
9.3. CONFIG



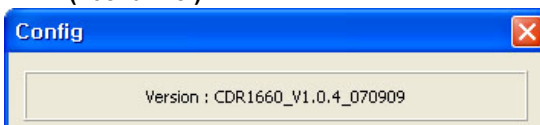
① Version Number

Display the current version of the DVR Viewer program.

CDR0860 (8channel)



CDR (16channel)



NOTE:

CDR0860 /CDR1660: It can be seen in information of the 8channel or 16channel

② COPY

Copy and the Live + Copy.

▫ Quick Copy

Click on the Quick Copy for faster copying the recorded data from the DVR to the Host Program (DVR VIEWER) without live images. The copying speed of the Quick Copy is faster than the Live + Copy.

▫ Live + Copy

Click on the Live + Copy for copying the recorded data from the DVR to the Host Program (DVR Master) with live images. The copying speed of the Live + Copy is slower than the Live + Copy.

③ Video Enhance

User can adjust the Brightness of screen by clicking on the bar or dragging the slider on the bar.

User can adjust the Contrast of screen by clicking on the bar or dragging the slider on the bar.

User can adjust the Hue of screen by clicking on the bar or dragging the slider on the bar.

User can adjust the Saturation of screen by clicking on the bar or dragging the slider on the bar.

4) DDNS SERVER

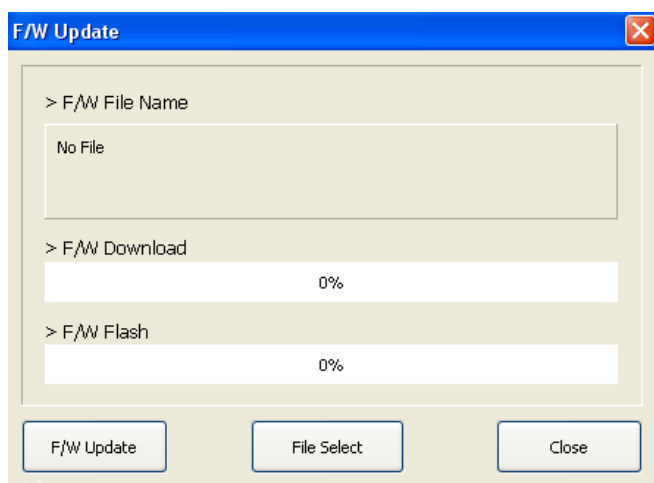
User can find the DDNS SERVER IP address.

5) Remote DVR Menu

By clicking the Remote DVR Menu with the help of mouse, User can view the live video in a full screen.

6) Firmware Update.

User has to update the firmware of the connected DVR by clicking on the Firmware Update. Once the User click the Firmware Update, the below window will pop up.

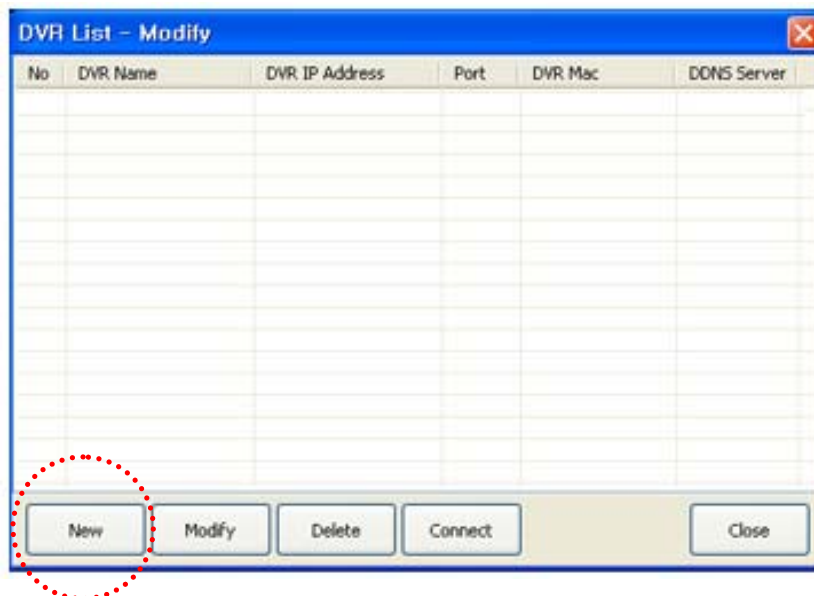


Select the latest firmware file by clicking on the File Select.

Once the File is selected, click on the Firmware Update to proceed further.

9.4. CONNECTION

Click on the CONNECT button of the DVR VIEWER.
By clicking the Connect button, the below window pops up.



Click on the **New button**, the below screen appears.



a) DVR NAME

User can enter the DVR Name as he desires.
For Example: User can input the Model Number or Name of the DVR.

b) DVR IP Address

User should enter the IP address of the connected DVR.

c) DVR MAC

User should enter the MAC address of the connected DVR.

d) Port

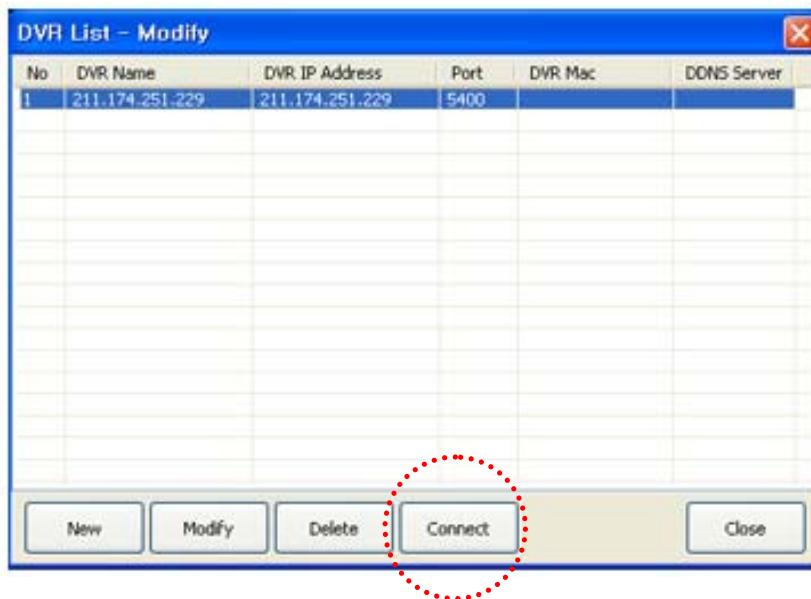
Enter the Port number for the DVR .

e) PASSWORD

Enter the password to access the DVR remotely. You have to use the password to be set in

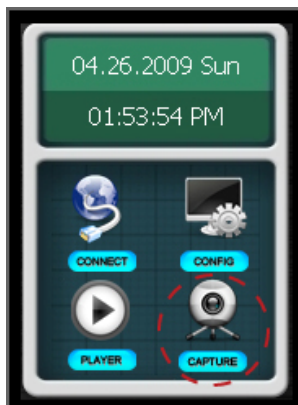
DVR.

Once the User enters the above details, he can save the data by clicking on the SAVE button.

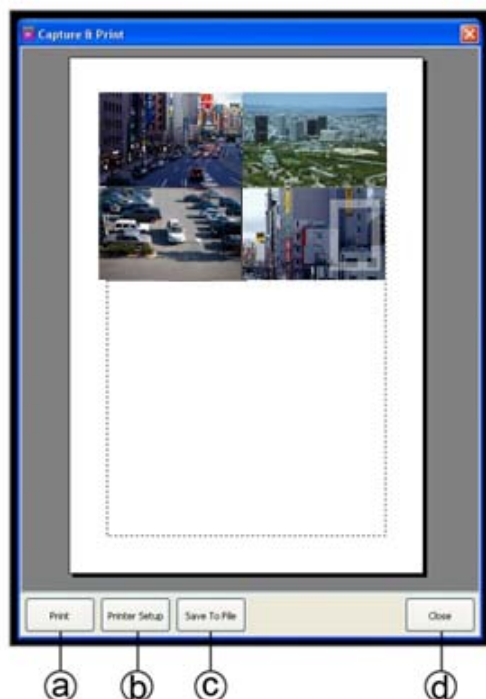


9.5. CAPTURE

User can take a snapshot in the Live mode by clicking on the CAPTURE icon as shown in the below screen.



By clicking the **CAPTURE** icon, the below screen pops up.



a) Save to file.

The picture can be saved as a JPEG or Bitmap format.

b) Print

Send the picture to the printer.

c) Printer Setup

User can print the .jpeg image by clicking on the Printer Setup.

d) Close

By pressing the Close button, the above screen will disappear.

9.6. STATUS

If the Status button on the DVR Viewer is selected by clicking the mouse, the DVR Viewer displays the DVR's status related to connections of cameras, sensors, relay outputs and remaining HDD (Hard Disk Drive) capacity available for recording as shown in the below figure.



9.7. REPLAY

It is possible to replay the recorded data from the DVR system by using the Replay button in the Single and Multi mode.

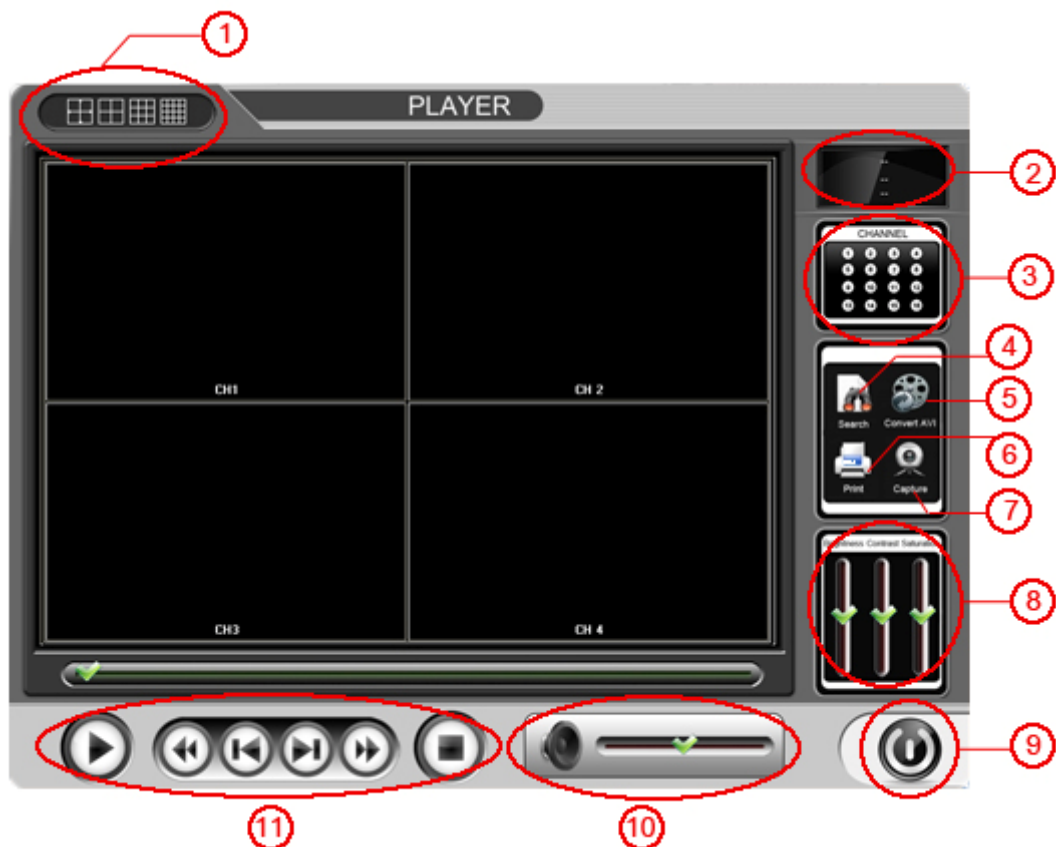
Click the Replay button to playback the recorded data from the DVR system, and then the Replay Time Setup Window will be displayed.



9.7.1. PLAYER

User has to this screen to playback the recorded video.

By clicking the PLAYER icon on the DVR VIEWER, the below window pops up.



1) MULTI SCREEN

User can split the screen into 4, 9 and 16 by clicking the Multi Screen icon.

2) STATUS DISPLAY

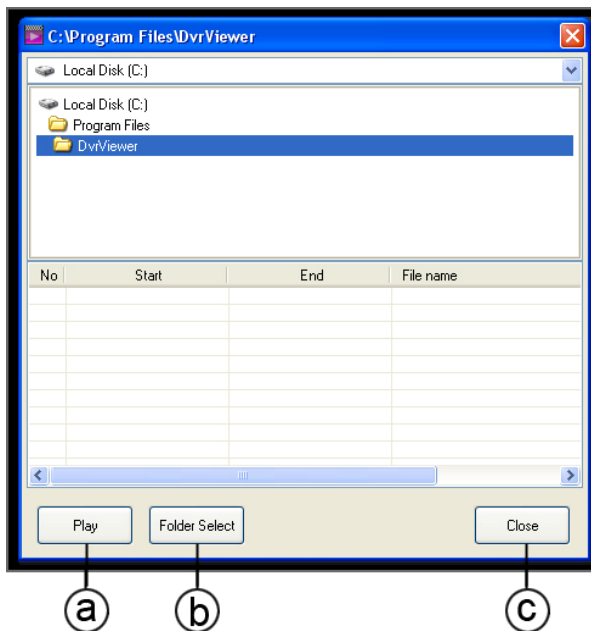
User can see the status of the playback data along with time and date by pressing the below said icons.

**3) CHANNEL BUTTON**

User can select the desired channel by clicking on the CHANNEL button.

4) SEARCH

User can search the recorded data by clicking on the SEARCH button. By clicking the SEARCH button, the below screen pops up.

**a) PLAY**

User can play the recorded data once the file is selected.

b) FOLDER SELECT

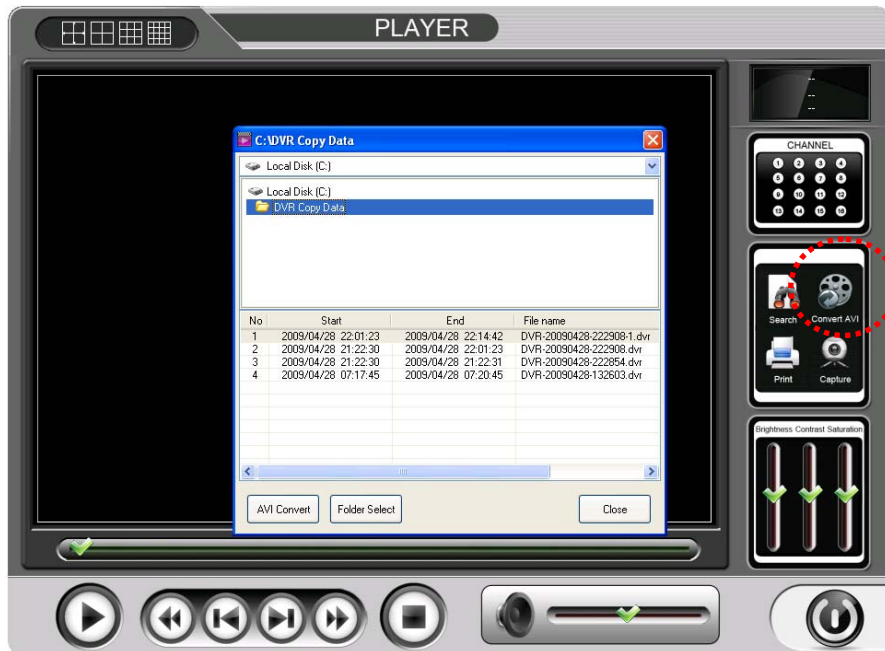
Initially, User has to select the folder where the recorded file has been stored.

c) CLOSE

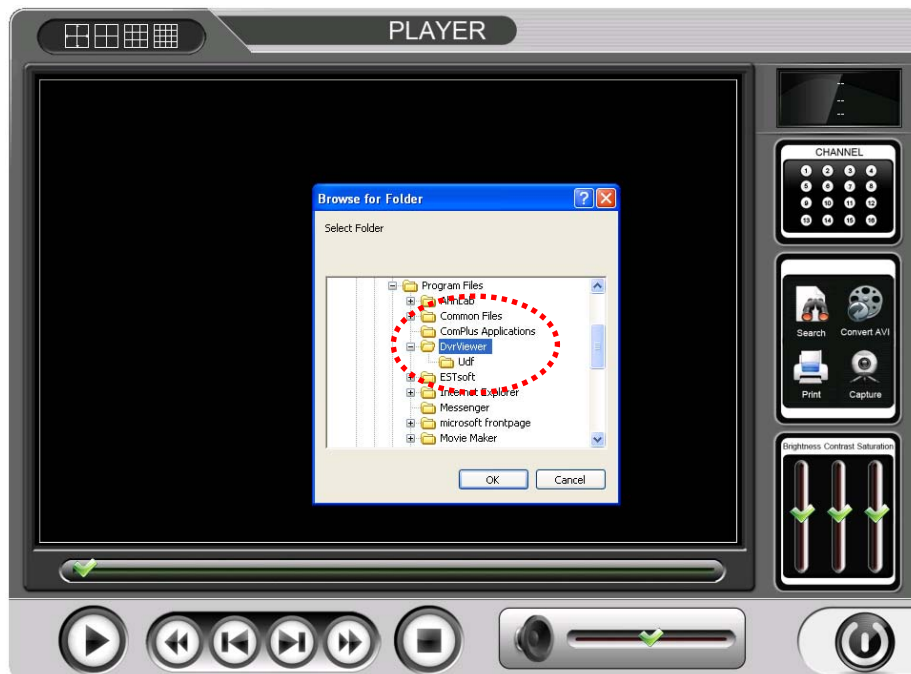
User can press the CLOSE button to exit from the above screen.

5) CONVERT AVI

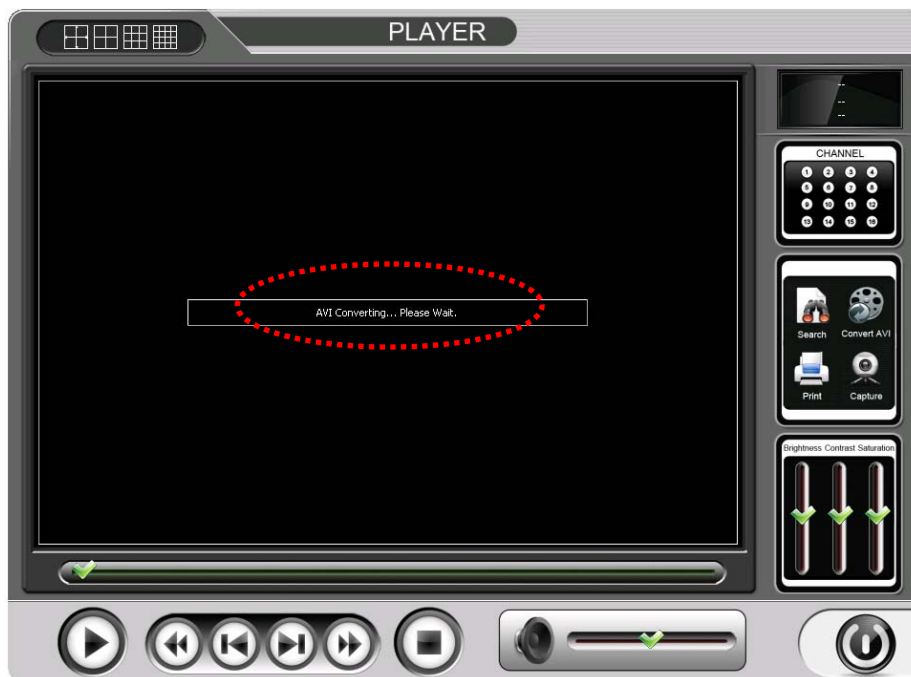
- a) User can click on the CONVERT AVI button to convert the file into AVI format.
At first, click the CONVERT AVI button



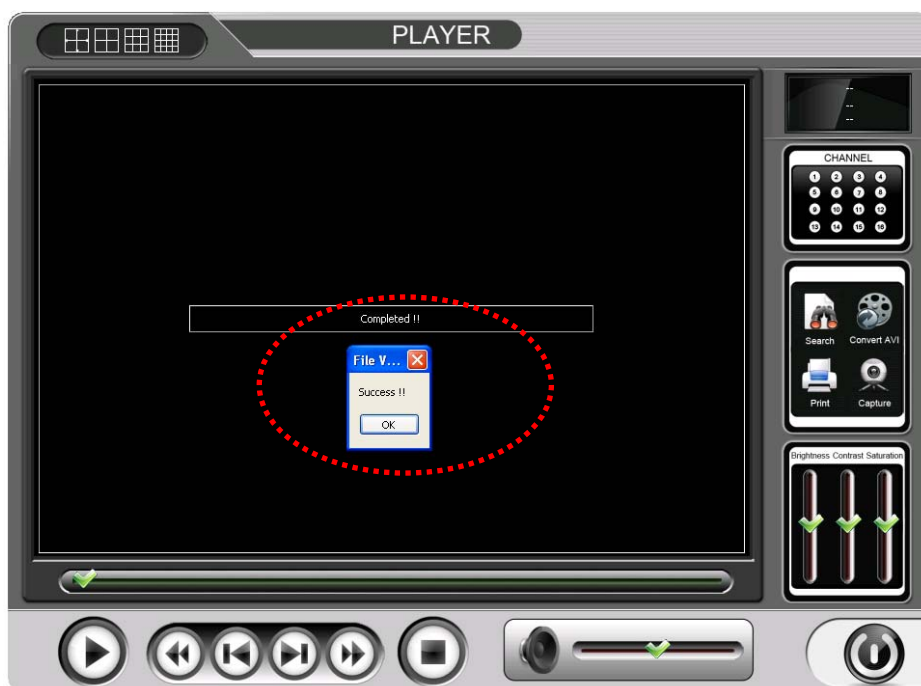
- b) Next, select the folder for AVI file will be saved. And click OK button.



c) AVI Converting the Message.

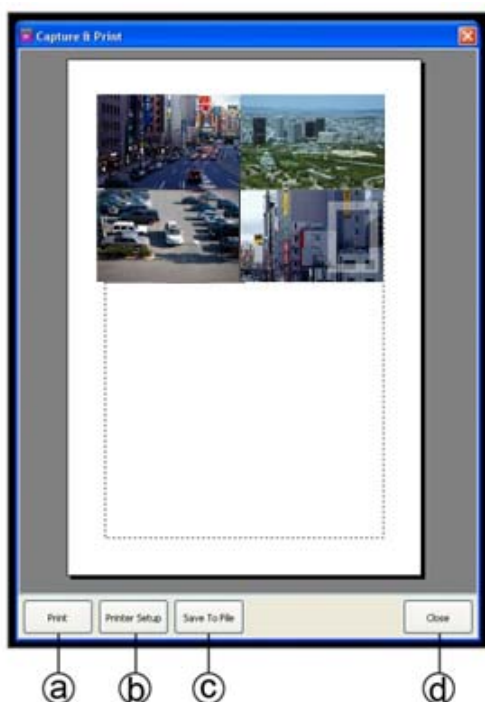


d) Converting Complete.



6) PRINT

In live or playback mode, select any of the channels and then click on PRINT to bring up the screen print window.



e) Save to file.

The picture can be saved as a JPEG or Bitmap format.

f) Print

Send the picture to the printer.

g) Printer Setup

User can print the .jpeg image by clicking on the Printer Setup.

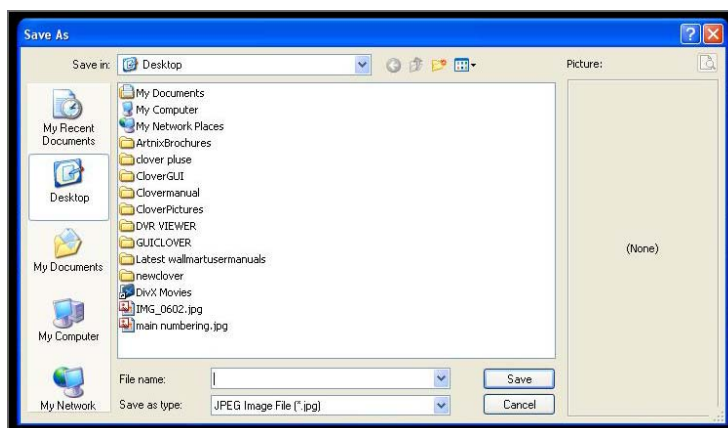
h) Close

By pressing the Close button, the above screen will disappear.

7) CAPTURE

User can capture a snapshot in the playback mode by clicking on the CAPTURE button.

As the User clicks the Capture button, it will immediately ask for the location where the image has to be stored.



8) BRIGHTNESS/CONTRAST/SATURATION

User can adjust the Brightness of screen by clicking on the bar or dragging the slider on the bar

User can adjust the Contrast of screen by clicking on the bar or dragging the slider on the bar

User can adjust the Saturation of the screen by clicking on the bar or dragging the slider on the bar.







9) Exit button.

If the user wants to exit from the Player screen, press this button.

10) SPEAKER.

User can adjust the Audio of the speaker by dragging the slider.

11) PLAYBACK Control Buttons

	PLAY button
	Button for fast rewinding up to 128 times by repeatedly
	Button for viewing previous frame in still image.
	Button for viewing previous frame in still image.
	Button for viewing the next frame in still image.
	Button for fast forwarding up to 128 times by repeatedly

9.8. COPY

It is possible to copy the recorded data from the DVR system to a client PC by using the Copy button in the Multi mode only.

Click the Copy button to view the below screen.

To copy the recorded data from the DVR system to a PC, and then the Copy Time Setup Window will be displayed.

The copied data will be saved in the Backup Files (Open Windows Explorer – click My Computer – click Program Files – click DVR VIEWER folder – click Backup Files).



Check the Start Time and End Time on the upper part of the Copy Time Setup Window.

Click the COPY button to set the Copy Start/End Time.

Set the Copy Start/End Time in the Start/End Time Setting menu as shown in the above screen and click the COPY button.

Select camera(s) you wish to copy by clicking "ALL" or camera channel number(s) in the Copy Time Setup Window.

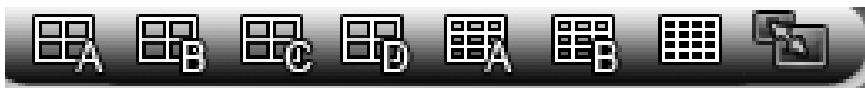
ALL" represents that all the cameras are selected.

9.9. Switch the Normal Screen to Full Screen

User can switch on to the various screen modes like 4, 9, 16 and Full Screen Display as shown below..

User can set the screen by just clicking on the Multi Screen icons.

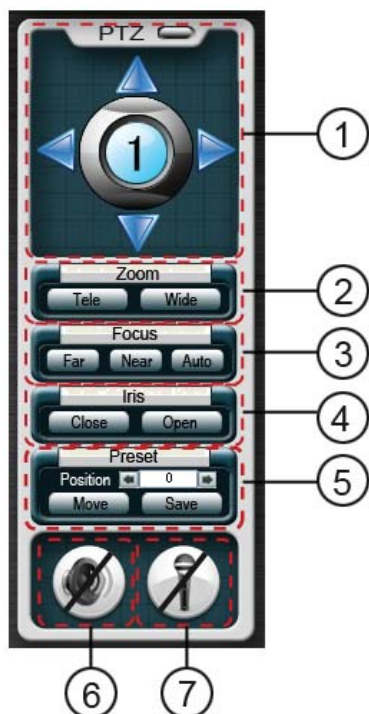
If the User wants single screen, he has to double click the left button of the Mouse.



9.10. Pan / Tilt and Preset Buttons

User can control the PTZ camera through DVR Viewer.

Please refer to the below diagram for more detailed explanation on PTZ functions.



1) CHANNEL SELECT Button

User can select the desired channel by clicking on the Numeric icon as shown in the below figure.

Also, user can pan and tilt the connected PTZ camera by clicking on the directional buttons.



The below said protocols supports the IRIS function.

2) ZOOM Control

Zoom in and out by clicking on the Tele and Wide buttons.

3) FOCUS control

User can access the Focus function by clicking the Far, Near and Auto buttons.

4) IRIS Control.

User can access the IRIS Control function by clicking the open and close.

PELCO-D (PELCO)	TK-C655/676 (JVC)
PELCO-P(PELCO)	EZ (E-RONIX)
DSC-230S (D-MAX)	I-LAN
TC-8560/TC-700(BOSCH)	

5) PRESET Functions

User can set a maximum of 255 preset positions.

By clicking on the Move button, User can move the camera to the desired location.

User can save the Preset positions by clicking on the Save button.

6) SPEAKER

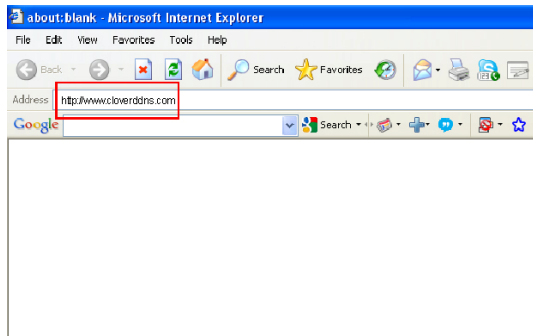
User can listen to any one of the 4/8/16 channels with audio recording over the internet by clicking the SPEAKER icon.

7) MICROPHONE

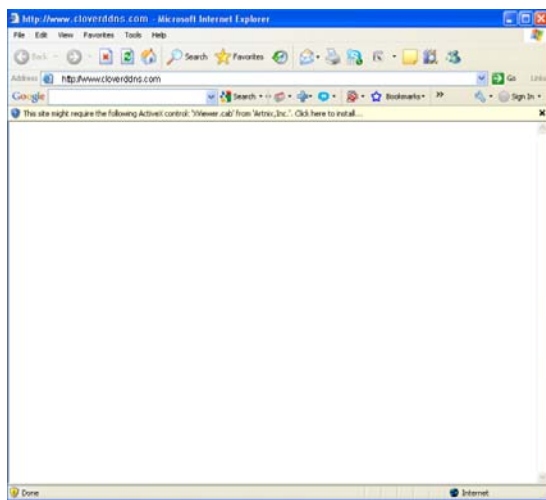
For the voice communication over the internet, click on the MICROPHONE button and then talk into an available microphone.

10. INTERNET EXPLORER (WEB BROWSER)

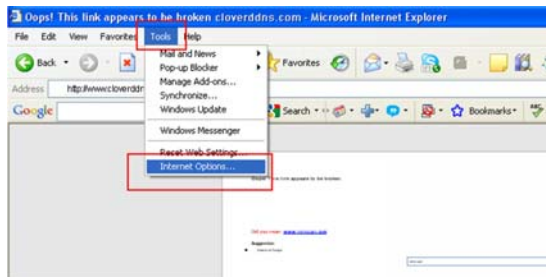
The system requirement is same as network client viewer.



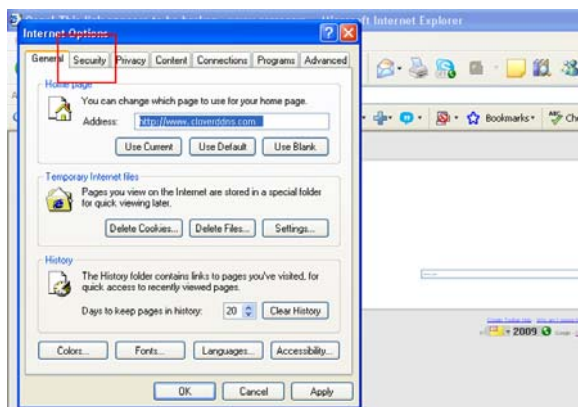
Enter the address on internet window
www.cloverddns.com



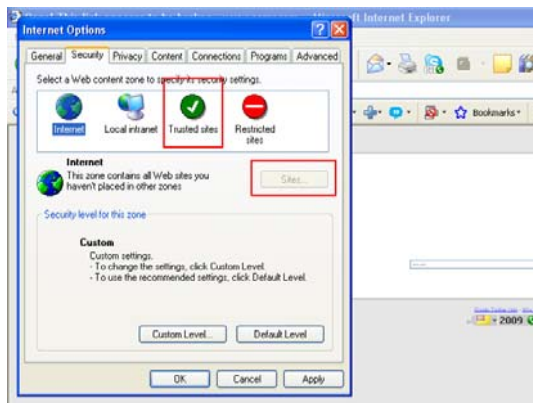
Check the “firewall” or “security wall” in Internet option.



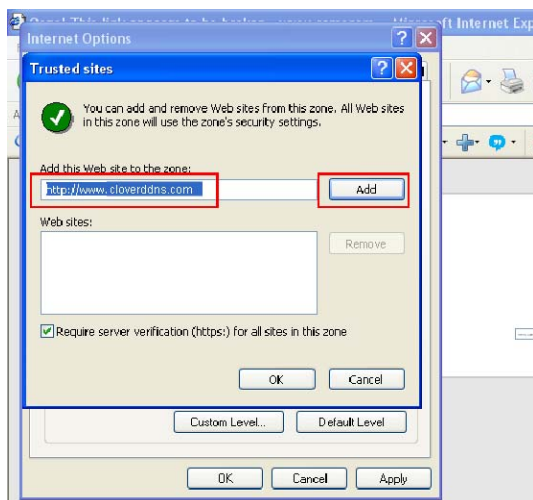
How to abandon firewall or security wall :
Click “TOOL” and “Internet option”



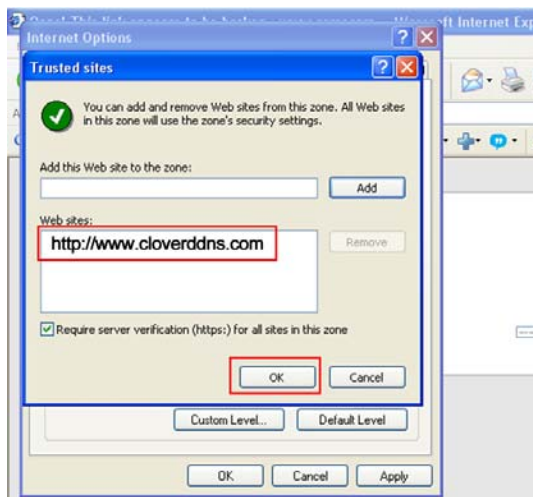
Click the “Security” section on Internet option window.



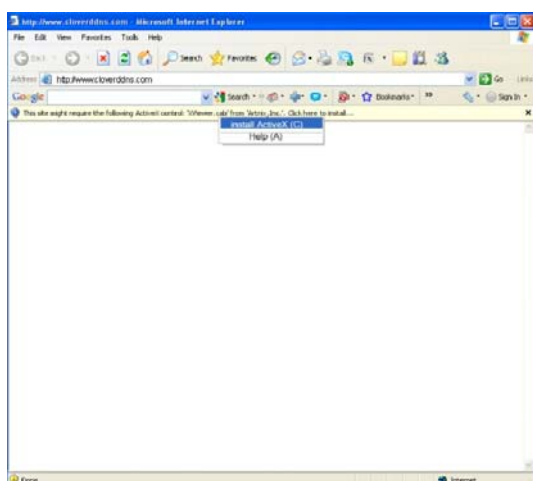
Click “Trusted site” and Enter “SITE” box.



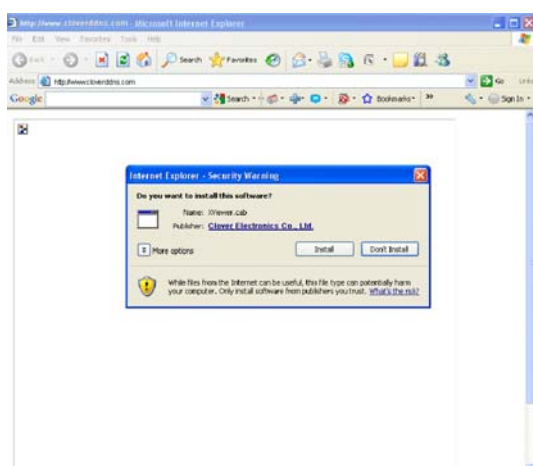
Add the address – <https://www.cloverddns.com> in blank and click the “ADD” button.



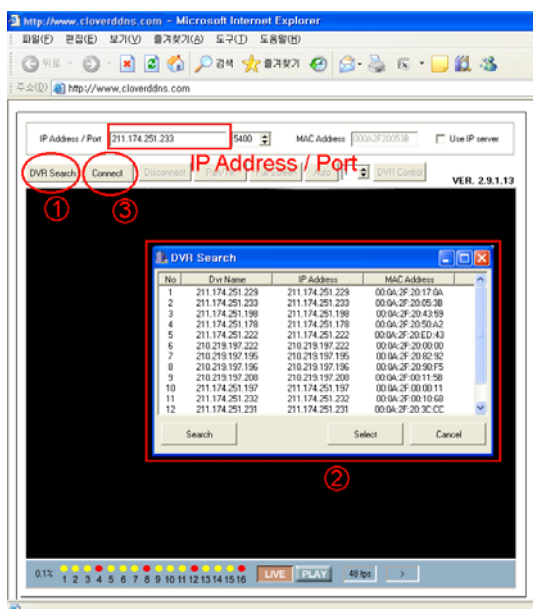
Then, you can see the site (<https://www.cloverddns.com>) is added. Click OK button.



If you still see this page, please allow the “Active control” and install it.



And you can see the left Security window. Please Click “INSTALL” button.



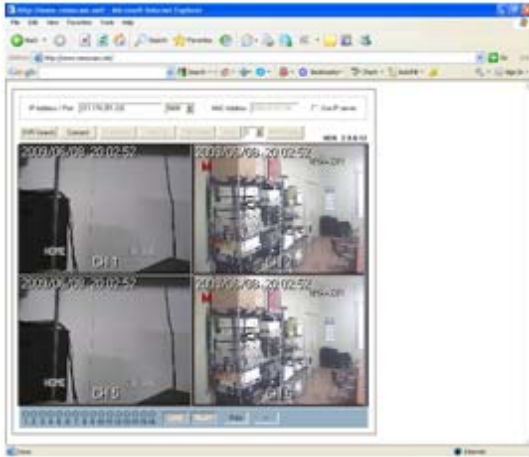
Use the following process.

1. DVR search button click
2. If you select one of the search window and press the select button.
IP Address/Port information on the window will enter the IP address automatically.
3. Click the Connect button.

NOTE:

DVR Search function from the Web Viewer can be only connected to DVR in the local.

If the DVR is connected to an external Internet, Input the IP(STATIC IP) address / Port to connect the DVR directly



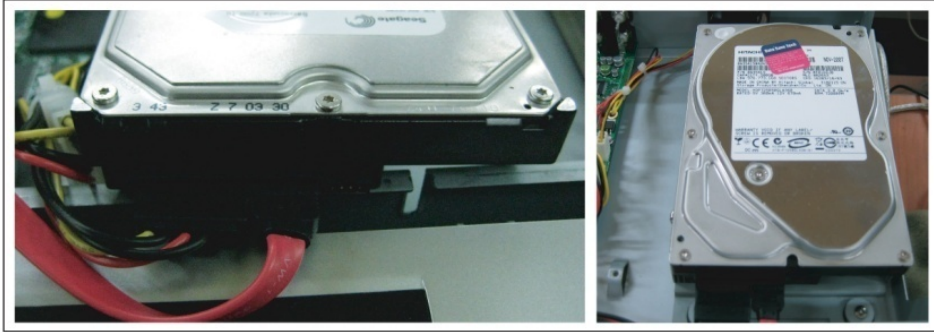
You can execute “Web browser” now.
Enter the IP address or Mac address to connect the
DVR.

Refer to chapter **9. CLIENT PROGRAM: DVR
VIEWER** on page 82 for operating the web browser.

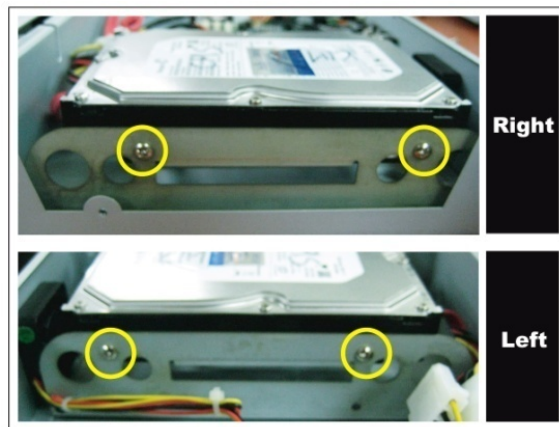
11. Hard Disk Drive (HDD) Installation

- a) Remove the top cover of your DVR and connect both the power and Signal (SATA) cables to the HDD as shown below.

Put the HDD on the HDD plate. Refer to the following pictures.



- b) Finally, Screw up to fix the HDD as the following pictures and then recover the DVR case.



12. APPENDIX

CONTENTS

- 12.1. TIME ZONE LISTING
- 12.2. RECORDING TIME TABLE
- 12.3. FACTORY DEFAULT SETTINGS
- 12.4. Warranty & Factory Service

12.1. TIME ZONE LISTING

GMT-12:00	International Date Line West
GMT-11:00	Midway Island, Samoa
GMT-10:00	Hawaii
GMT-09:00	Alaska
GMT-08:00	Pacific Time (US and Canada); Tijuana
GMT-07:00	Arizona
GMT-07:00	Chihuahua, La Paz, Mazatlan
GMT-07:00	Mountain Time (US and Canada)
GMT-06:00	Central America
GMT-06:00	Central Time (US and Canada)
GMT-06:00	Guadalajara, Mexico City, Monterrey
GMT-06:00	Saskatchewan
GMT-05:00	Bogota, Lima, Quito
GMT-05:00	Eastern Time (US and Canada)
GMT-05:00	Indiana (East)
GMT-04:00	Atlantic Time (Canada)
GMT-04:00	Caracas, La Paz
GMT-04:00	Santiago
GMT-03:30	Newfoundland
GMT-03:00	Brasilia
GMT-03:00	Buenos Aires, Georgetown
GMT-03:00	Greenland
GMT-02:00	Mid-Atlantic
GMT-01:00	Azores
GMT-01:00	Cape Verde Island.
GMT	Casablanca, Monrovia
GMT	Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
GMT+01:00	Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
GMT+01:00	Belgrade, Bratislava, Budapest, Ljubljana, Prague
GMT+01:00	Brussels, Copenhagen, Madrid, Paris
GMT+01:00	Sarajevo, Skopje, Warsaw, Zagreb
GMT+01:00	West Central Africa
GMT+02:00	Athens, Beirut, Istanbul, Minsk
GMT+02:00	Bucharest
GMT+02:00	Cairo
GMT+02:00	Harare, Pretoria
GMT+02:00	Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius

GMT+02:00	Jerusalem
GMT+03:00	Baghdad
GMT+03:00	Kuwait, Riyadh
GMT+03:00	Moscow, St. Petersburg, Volgograd
GMT+03:00	Nairobi
GMT+03:30	Tehran
GMT+04:00	Abu Dhabi, Muscat
GMT+04:00	Baku, Tbilisi, Yeveran
GMT+04:30	Kabul
GMT+05:00	Ekaterinburg
GMT+05:00	Islamabad, Karachi, Tashkent
GMT+05:30	Chennai, Kolkata, Mumbai, New Delhi
GMT+05:45	Kathmandu
GMT+06:00	Almaty, Novosibirsk
GMT+06:00	Astana, Dhaka
GMT+06:00	Sri Jayawardenepura
GMT+06:30	Rangoon
GMT+07:00	Bangkok, Hanoi, Jakarta
GMT+07:00	Krasnoyarsk
GMT+08:00	Beijing, Chongqing, Hong Kong, Urumqi
GMT+08:00	Irkutsk, Ulaan Bataar
GMT+08:00	Kuala Lumpur, Singapore
GMT+08:00	Perth
GMT+08:00	Taipei
GMT+09:00	Osaka, Sapporo, Tokyo
GMT+09:00	Seoul
GMT+09:00	Yakutsk
GMT+09:30	Adelaide
GMT+09:30	Darwin
GMT+10:00	Brisbane
GMT+10:00	Canberra, Melbourne, Sydney
GMT+10:00	Guam, Port Moresby
GMT+10:00	Hobart
GMT+10:00	Vladivostok
GMT+11:00	Magadan, Solomon Island, New Caledonia
GMT+12:00	Auckland, Wellington
GMT+12:00	Fiji, Kamchatka, Marshal Island
GMT+13:00	Nuku'alofa

12.2. RECORDING TIME TABLE

HDD : 500GB , Based on 4 cameras

IMAGE SIZE	IMAGE QUALITY	1CH Record Size	Use HDD Capacity (MB)hr	RECORD POSSIBILITY DAY/500 GB
720 X480	BEST	67	936	22
720 X480	FINE	59	832	25
720 X480	NORMAL	41	584	36
720 X480	LOW	32	456	46
720 X240	BEST	42	588	35
720 X240	FINE	37	516	40
720 X240	NORMAL	23	328	64
720 X240	LOW	18	256	81
360 X240	BEST	23	324	64
360 X240	FINE	18	260	80
360 X240	NORMAL	12	164	127
360 X240	LOW	9	128	163

12.3. FACTORY DEFAULT VALUES

SCREEN			CDR1660(16CH)		CDR0860(8CH)		CDR0460(4CH)	
AUTO SEQUENCE	SEQUENCE TYPE		QUAD-A QUAD-B QUAD-C QUAD-D EIGHT-A EIGHT-B		QUAD-A QUAD-B EIGHT-A		QUAD-A	
	ADD AUTO SINGLE		OFF					
	CDR1660(16CH)		each channel 2 SEC					
	CDR0860(8CH)							
	CDR0460(4CH)							
DISPLAY	HDD FREE SPACE		ON					
	HDD FREE SPACE MODE		PERCENT					
	RECORD STATUS		ON					
	CLOCK DISPLAY		ON					
	TIME & DATE FORMAT		MM/DD/YY					
	TITLE DISPLAY		ON					
	BORDER COLOR		WHITE					
CAMERA	Model	NO.	COVERT	PTZ	BAUD RATE	ID		
	CDR1660	1~16CH	OFF	NONE	9600	1		
	CDR0860	1~8CH	OFF	NONE	9600	1		
	CDR0460	1~4CH	OFF	NONE	9600	1		
SPOT	SPOT OUTPUT	MANUAL						
	SPOT DWELL TIME	2 SEC						
VIDEO ENHANCEMENT	CHANNEL	1						
	BRIGHTNESS	50%						
	CONTRAST	50%						
	HUE	50%						
	SATURATION	50%						
EVENT SCREEN MODE	SCREEN HOLD							
RECORD								
RECORDING SETUP	Model	RESOLUTION (Each Channel)	F/S	QUALITY	SCHEDULE	MOTION	SENSOR	
	CDR1660 (1,2,3,5,6,7,9,10,11,13,14,15 CH)	HALF D1	8	NORMAL	X	X	X	

	CDR1660 (4,8,12,16CH)	HALF D1	6	NORMAL	X	X	X
	CDR0860 (1~8CH)	HALF D1	15	NORMAL	X	X	X
	CDR0460 (1~4CH)	HALF D1	30	NORMAL	X	X	X
SCHEDULE	SCHEDULE RECORDING				OFF		
	WEEKDAY				NONE SELECTED		
	SATURDAY				NONE SELECTED		
	SUNDAY				NONE SELECTED		
MOTION	MOTION RECORDING				OFF		
	PRE RECORDING TIME				5 SEC		
	POST RECORDING TIME				10 SEC		
	SENSITIVITY				5		
	AREA SETUP				ENABLE		
SENSOR	ALARM RECORDING				OFF		
	PRE RECORDING TIME				5 SEC		
	POST RECORDING TIME				10 SEC		
	SENSOR INPUT TYPE				NORMAL OPEN		
AUDIO RECORDING	OFF						
SYSTEM							
HDD	REC HDD FORMAT						
	HDD INFORMATION				HDD 1	TOTAL SPACE : ** MB FREE SPACE : ** MB	
					HDD 2	TOTAL SPACE : ** MB FREE SPACE : **MB	
	MEDIA INFORMATION				USB STORAGE: NOT INSTALL USB CD/DVD : NOT INSTALL		
CLOCK	TIME & DATE						
	TIME ADJUST						
	INTERNET TIME ADJUST				OFF		
	SELECT TIME ZONE				GMT -08:00		
	DAYLIGHT SAVING TIME				OFF		
BUZZER	ON						
PASSWORD	PASSWORD				OFF		
	SET PASSWORD						
FACTORY DEFAULT SETTING							
FIRMWARE UPDATE							

SYSTEM LOG			
SYSTEM INFORMATION			
LINK			
NETWORK	DHCP		OFF
	STATIC IP	IP ADDRESS	192.168.0.2
		SUBNET MASK	255.255.255.0
		GATEWAY	192.168.0.1
		DNS	0.0.0.0
	PORT		5400
	DDNS SERVER	SERVER 1	211.174.251.155
		SERVER 2	211.174.251.160
	BANDWIDTH		10 MB
	MAC ADDRESS		
DDNS SERVER RESPONSE			
RS485	SYSTEM ID		1
	BAUD RATE		57600
	DATA BIT		8
	PARITY BIT		NONE
	STOP BIT		1
E-MAIL	SEND E-MAIL		OFF
	E-MAIL ADDRESS 1~5		
SEARCH			
CALENDAR SEARCH			
TIME/DATE SEARCH			
EVENT SEARCH	CHANNEL		ALL
	EVENT		ALL
COPY			
COPY	MEDIA		USB 1
	CHANNEL		ALL
MEDIA FORMAT	MEDIA		USB 1
	MEDIA FORMAT		

12.4. Warranty & Factory Service

Limited 2Year Warranty

This warranty gives the original purchaser specific legal rights and you may also have other rights, which may vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair it for free for 2 years on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitations on incidental or consequential damages.

How to obtain Factory Service

- Original purchaser must fill out the warranty card and mail it to the factory with the model number, serial number and the date of purchase.
- We will repair or replace, and return the system to the owner under this limited warranty.
- Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: **13073 E. 166th St, Cerritos, CA 90703**.
- Please include a check for \$30.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be started.

**INSTRUCTION
MANUAL**

**3D-DNR
DAY/NIGHT COLOR DOME CAMERA**

MODEL HDC238



CLOVER
Electronics USA

Copyright © 2009 Clover Electronics U.S.A. All Rights Reserved.

PRECAUTIONS

- To prevent fire or shock hazard, do not expose the product to rain or moisture.
- To avoid electrical shock, do not open the case of this product.
- Operate this product using only the recommended AC Power supply.
- Do not overload electrical outlets or extension cords; this can result in fire or electric shock.
- Keep this product away from strong magnetic fields.
- Do not expose this product in direct sunlight or strong reflected rays.
- Refer servicing to qualified personnel only.
- Do not change or modify this product, the warranty will be voided.

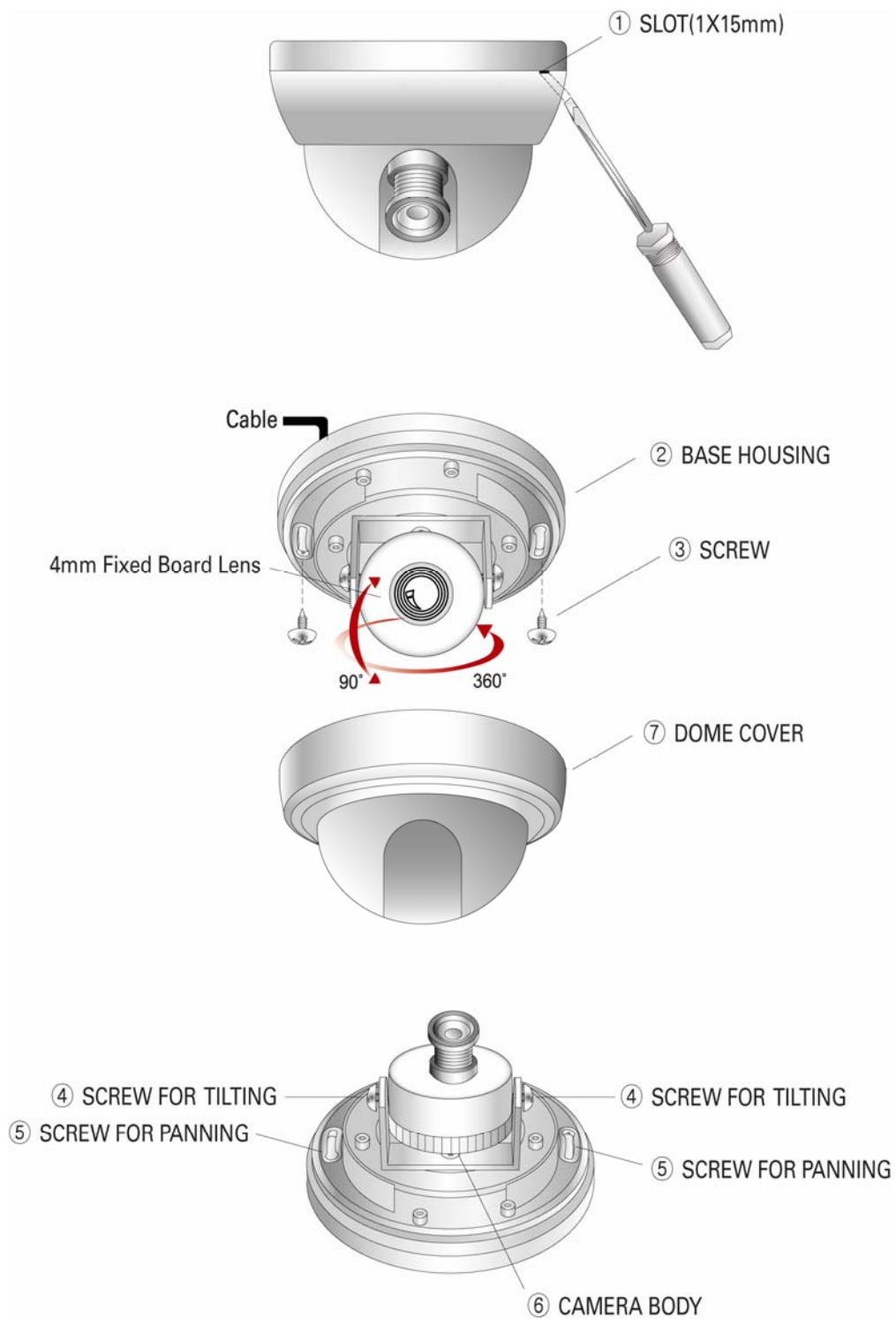
FEATURES

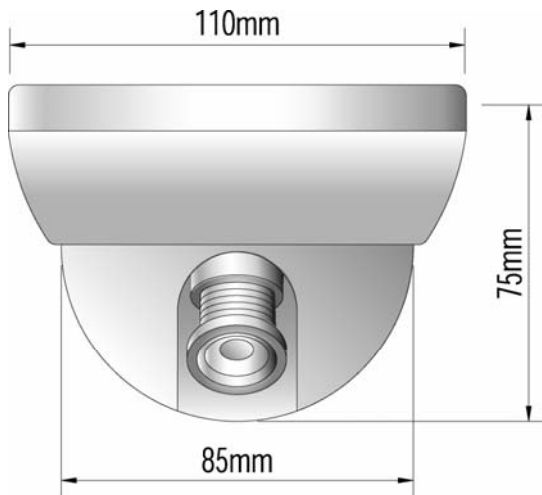
- 1/3" Sony Super HAD CCD
- High Resolution 550 TV Lines (Color), 600 TV Lines (B/W)
- Day/Night Camera
- On Screen Display (OSD)
- 3D DNR (Digital Noise Reduction) with 3D filter
- D-WDR (Digital Wide Dynamic Range)
- 3-Axis Gimbals Bracket
- DC 12V Power Source

INSTALLATION

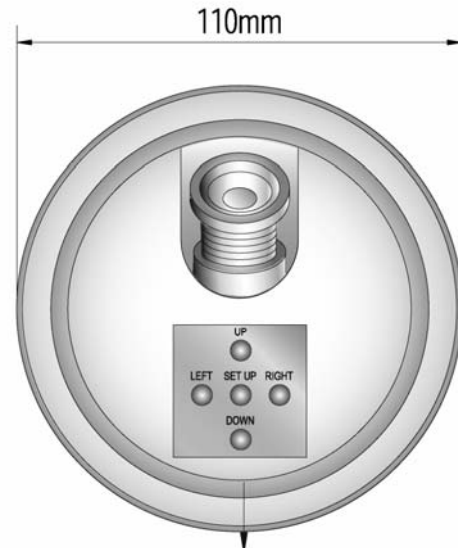
1. In order to open the dome camera, insert a suitable “-“ driver into the slot① and twist the driver.
2. Attach the base housing② to the wall or ceiling, wherever you want to install the camera. Locate a wall stud or ceiling joist and secure the base housing② using the supplied screws③.
3. How to set angle of view:
 - Loosen the locking screws④⑤ and adjust the camera direction by turning the pan bracket⑤ left or right, the tilt bracket④ up or down, then fix the screws firmly.
 - Turn the camera body⑥ clockwise or counter-clockwise to upright images on the screen.
4. If necessary, change the settings to get the best images depending on your application by using the buttons on the rear of the camera (refer to the instruction manual for OSD control).
5. Assemble the dome cover⑦ by pushing back to the base housing②.
6. Connect the one end of BNC cable (not supplied) to the BNC (F) of 5' cable attached to the camera and the other end (BNC) of cable to the video devices such

as DVR, monitor/TV. Plug an AC power supply (not supplied) to the DC jack (red) on the camera.





FRONT



OSD Menu Control Board

SIDE

Note:

- Apply DC12V 250 mA regulated power supply (not included).
- To avoid fire or shock hazard, use a UL listed power supply.

TROUBLE SHOOTING

If the camera does not function properly, check the following points before contacting the service center.

Troubles	Remedies
No video	Check the AC adapter and video cable between the camera and a monitor
The image on the screen is dark	Check the brightness control on the monitor
The image on the screen is dim	Check if the lens is stained. If dirty, clean it with soft and clean cloth
The camera is not working properly, and the surface of the camera case is hot	Check if you have connected the provided AC adapter
The contrast on the screen is too weak	Adjust the contrast feature of the monitor. If the camera is exposed under too strong light, change the position

The image on the screen flickers	Does the camera face to directly to the sunlight or fluorescent light? Change the camera position
Picture rolls and jumps, scrambled picture	Improper V-hold control. Setting on your monitor
Picture smaller than screen	House current may be too low

SPECIFICATIONS

- Image sensor 1/3" SONY Super HAD CCD
- Total pixels 811(H) x 508(V)
- Effective Pixels 768(H) x 494(V)
- Scanning system 2:1 Interlace
- O.S.D Available
- Backlight Off / HSBLCL / BLC selectable
- Resolution 550TV Lines(color),600TV Lines(B/W)
- S/N (Y signal) 52dB (AGC Off, Weight On)
- Min.illumination 0.00001Lux(sense-up x258)
- White Balance ATW / AWB / Manual / AWC→SET
- Sense-up Off / Auto / (Selectable limit x2 ~ x258)
- 3 DNR Off / On (1~50 level adjustable)
- D-WDR Indoor / Outdoor / Off
- D&N selection Color / BW / Auto
- Digital zoom On(x32) / Off
- Voltage DC12V
- Current consumption 130 mA @DC12V
- Lens 4.0mm fixed board lens
- Operating temperature/Humidity -10°C ~ +50°C. RH 95% Max.
- Storage temperature/Humidity -20°C ~ +60°C. RH 95% Max.
- Dimensions 110 (Φ) x 75(H)mm
- Weight 0.7 Lbs

LIMITED 2 YEAR WARRANTY

This warranty gives the original purchaser specific legal rights and you may also have other rights, which vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair free of charges for 2 years on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitations on incidental or consequential damages.

HOW TO OBTAIN FACTORY SERVICE

1. Original purchaser must fill out a warranty card and mail it to the factory with model number, serial number and the date of purchase.
2. We will repair or replace, and return to the owner the system under this limited warranty.
3. Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: 13073 E. 166th St, Cerritos, CA 90703.
4. Please include a check for \$15.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be begun.

AVAILABLE ACCESSORIES

CDR0460	Stand-alone 4 CH Digital Video Recorder (DVR)
CDR4450	Stand-alone 4 CH Digital Video Recorder (DVR)
CDR0860	Stand-alone 8 CH Digital Video Recorder (DVR)
CDR1660	Stand-alone 16 CH Digital Video Recorder (DVR)
CDR0850	Stand-alone 8 CH Digital Video Recorder (DVR)
CDR1650	Stand-alone 16 CH Digital Video Recorder (DVR)
CA100BP	100' BNC/Power to BNC/Power Extension cable and coupler
ADT120250	AC Power Supply DC12V 250 mA Regulated

PACKAGE INCLUDES

- 1-Day & Night Color Dome Camera
- 1-Hardware Accessories Kit
- 1-Instruction Manual
- 1-Instruction Manual for OSD Control
- 1-Warranty Registration Card

USER'S INSTRUCTIONS

High Resolution Color CCD
Security Camera
with IR LED Lights for Night Vision

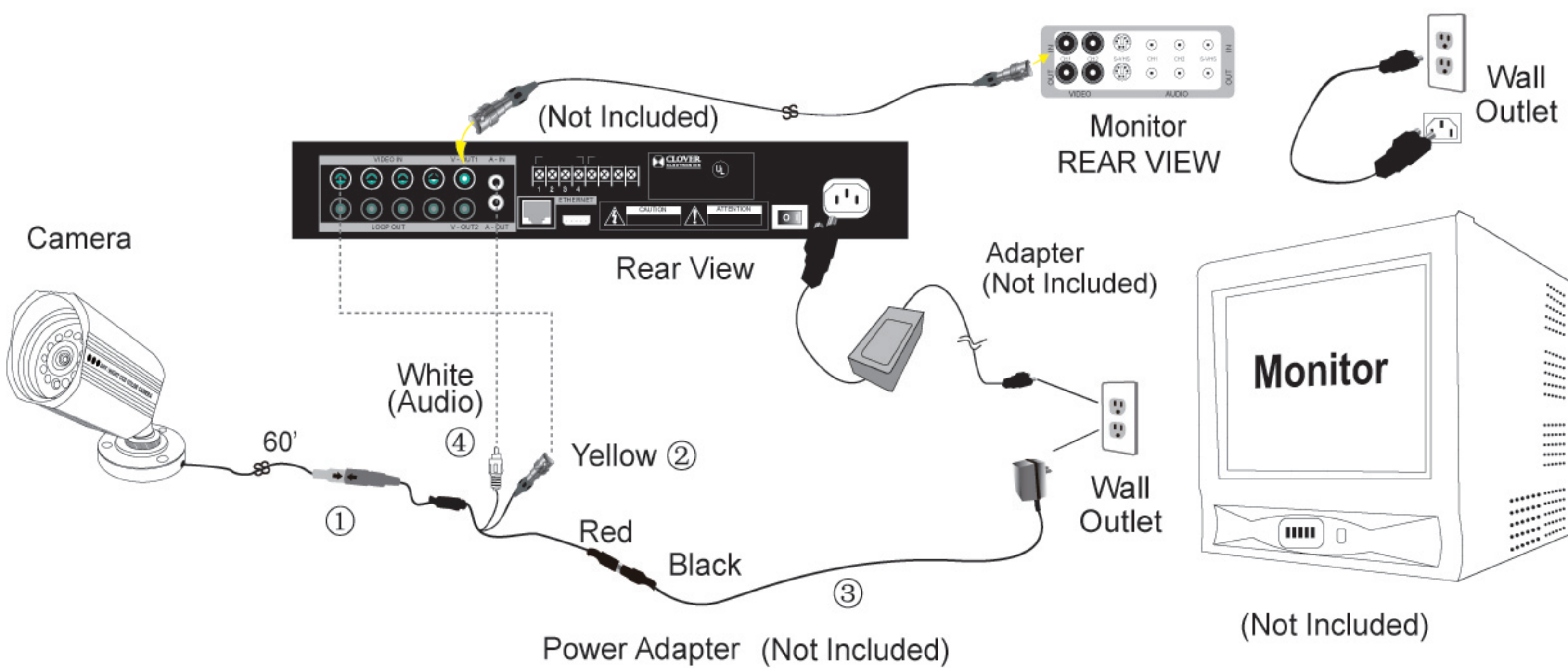
Model # RD335H
(Indoor/Outdoor Use)



KEY FEATURES

- Easy to Install
- Weather Resistant
- Rugged Steel Construction
- High Resolution for Viewing High Quality Images
- Built-in Water Proof Microphone for Indoor / Outdoor Use
- IR LED Lights for Night Vision

INSTALLATION



1. Attach the mounting bracket to the desired location on the wall or ceiling, wherever you want to install the camera. Locate a wall stud or ceiling joist and secure the mounting bracket using the supplied screws.
2. Connect the one end of 60' cable ① to the breakout cable of the camera and the other end of cable to the 2' breakout cable. Make sure that two arrows on the top of them should be aimed at each other.

3. Connect the BNC (yellow) on the end of 2' breakout cable ② to the one out of video inputs on the rear of DVR and DC jack (red) to ③ AC adapter. Plug the provided AC adapter to AC outlet: refer to the illustration above.
4. Connect the RCA plug (white) on the end of 2' breakout cable ④ to the one out of audio inputs on the rear of DVR if necessary.

SPECIFICATIONS

Image Sensor	1/3" SONY Color CCD Sensor
Video System	NTSC
Resolution	420 TV Lines of Resolution
Shutter Speed Control	Auto 1/60 ~ 1/100,000 Sec
Camera Application	Designed for Indoor or Outdoor Use
Minimum Illumination	0.2 Lux F1.2
Power Supply	DC 12V
Operation Temperature	-10°C ~ 50°C
Dimensions	63mm (Ø) x 98mm (L)

PACKAGE INCLUDES

- 1 - Outdoor Camera Built-in Water Proof Microphone
- 1 - 60ft 6pin Din Cable
- 1 - Breakout Cable
- 1 - Adjustable Mounting Bracket
- 1 - Mounting Screw Set
- 1 - Warranty Registration Card
- 1 - User's Manual
- 1 - Regulated AC Power Supply

Troubleshooting

If the unit does not function properly, check the following points before contacting the service center.

Problem	Cause & Remedies
NO Power	Check the AC outlet , AC Adapter and turn the power switch ON
NO Picture	Connect the Yellow-Plug to the Monitor or TV correctly
NO Sound	Connect the White-Plug to the Monitor or TV correctly
Picture flickering	Remove strong spotlight in the field of view
Dim picture, too bright/dark	Please adjust brightness level of your Monitor or TV properly
Rolling or jumping Picture	Please adjust V-Hold level of your Monitor or TV properly

How to Obtain Factory Service

1. Original Purchaser must fill out a warranty card and mail it to Clover Electronics USA with model number, serial number and date of purchase.
2. Please pack the products carefully and securely by using the original packing materials, and send it prepaid and insured to: 13073 E. 166th St. Cerritos, CA 90703.
Please include a note stating how the unit is defective.
3. If the unit is returned within the warranty period, please include a proof of purchase and check for \$ 20.00 to cover the cost of return postage and handling.
If the unit is out of warranty, please include a check for \$20.00 to cover the cost of return postage and handling. You will receive an estimate of the repair cost for your approval before repair work will be started.
4. Clover will repair or replace and return the products to the owner under this limited warranty.

Limited 2 year Warranty

This warranty gives the original purchaser specific legal rights and you may also have rights, which may vary from state to state.

If our products do not function because of any defect in material or workmanship, we will repair it for free for 2 years on parts and labor from the date of original purchase.

This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitation on incidental or consequential damages.

Available Accessories

• CA060	60' 6 Pin DIN Extension Cable	• TLV1280A	960 hrs Time Lapse VCR
• CA100	100' 6 Pin DIN Extension Cable	• CDR4170	4 Ch DVR
• CA300	300' 6 Pin DIN Extension Cable	• CDR4060	4 Ch DVR
• CN020	6pin Din Coupler for Extension Cables	• CDR0850	8 Ch DVR
		• CDR1610	16 Ch DVR